# THE ART OF FINE ART DIGITAL PRINTING

LES PICKER

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1

# INTRODUCTION

# WHY A BOOK ON PRINT-MAKING

Looking at the history of photography, the yardstick by which photographers and critics have always measured our work has been the fine art print. From the pioneering, hard-hitting work of Matthew Brady during the Civil War to the exquisite and technically perfect prints of Edward Weston and Ansel Adams, to the emotionally wrenching art of Dorothea Lange, the print has been the ultimate way to showcase a photographer’s work and his or her artistic accomplishments.

In fact, The Print - capitals intentional - is the only constant physical aspect of photography. It has stood the test of time. It has endured the radical evolution of our craft from large format wood and glass plate cameras, through canister film and now digital. Yes, today we can display our images online, but most professionals and critics would argue that the only way to truly judge the quality of an image is through the creativity and effort that generates a fine art print; a print you can proudly display on your walls to friends and family, in a gallery to art aficionados, or in the home of an art patron. Ansel Adams aptly referred to the fine art print as "the photographer’s performance".

There is yet another reason most photographers yearn to have their prints displayed on a home or gallery wall. Just imagine showing a friend a collection of your images on your iPhone. What do you wit-

ness? She may view the first image for perhaps three seconds, flip, view, flip, view, tap. How many people pause to really study a digital image?

Now imagine yourself observing people walking through a gallery of fine art photographic prints. How long do they pause to examine a print? We have to time it in minutes. Viewers' eyes range over the image, they pick up subtle details of light, shadows and tonality. They notice the sensuality of the paper, the effects of matting and framing. They study the scene the image represents. I remember watching a group of college students seeing Dorothea Lange's image of a Great Depression era mother and two daughters for the first time. They stared and stared for minutes, emotionally engaged, trying to unravel the emotions of the subjects Lange captured in that iconic scene. Admittedly, I still sometimes choke up when I find myself in front of one of those prints.

## AND ANOTHER REASON

Consider this; prints are a more permanent storage solution than anything we have today, and may possibly have in the future. A print with archival inks on archival paper will last 100-200 years and more if properly stored.

But what about digital storage, you ask? Well, what about it? Do you remember floppy disks? Think you can retrieve your images from 20 years ago that you painstakingly stored on them? How about CDs, DVDs, Zip drives? Obsolete, every one of them. Well, Cloud storage obviously solves that problem, right? Maybe not so much. Computer scientists are already talking about far more efficient storage systems.

The point here is that prints stand the test of time. They have staying power. They are as permanent as we can get, and they literally stop people in their tracks.

## AND STILL ANOTHER

I saved what I consider the most important reasons for fine art printing for last. Printing is good for you, the photographer. More than good, it is critical if you are to ever attain the pinnacles of photographic art. Just the very act of deciding which image to print is a valuable exercise. You must seriously consider every facet of picture-taking, from edge sharpness to bokeh, from contrast to content. Every element of composition needs to be considered before committing that effort to a fine art print. Why would you go through all the trouble and expense to print, sign, mat and frame your image if you did not think it truly worthy?

I find the act of image selection for prints to be an act of intimacy. It reconnects me to the act of capturing the image, it allows me to scrutinize its details, it forces me to imagine the final product as a reflection of my art. I know that once printed and signed, it will far outlast me, my camera gear and my digital files.

## WHAT WE HAVE IN STORE FOR YOU

In this book, Robert Boyer, a Master Printer and my very able assistant, and I will guide you through the printing process, from post-processing to display. In it we will follow our own work flow that we employ in our photographic studio in historic Havre de Grace, Maryland. Unlike other books about digital printing, many of them excellent, we hope to teach you the concepts that will allow you to understand the digital print process itself, and the many challenges you will face, so that you can make creative decisions of your own that

reflect your personal vision. We will also employ something akin to a case study approach, so that when you encounter those challenging images that somehow firmly resist morphing into a great print, you will find ways to tackle that image within these pages. Our case study approach is a different way of approaching the world of printmaking.

- While printmaking is not easy, it also does not have to be as complicated as some would have you believe. Ink jet printers today are marvels of engineering, using sophisticated software algorithms to lay down minute drops of ink that blend seamlessly to produce the color and subtle tonality that we captured in camera.

And, papers! What a long way we have come with the availability today of fine art photographic papers. Today the choices seem endless. The papers we can purchase are luscious, tactile experiences in themselves. There are glossy papers and matte, smooth and textured, sheets and rolls, in every size we could possibly need. Manufacturers and distributors such as Moab, Hahnemuhle, Epson, Canon, Canson, Museo and others sell archival, fine art papers that are - no other word for it - gorgeous.

In this book we emphasize fine art papers made by Moab (a division of Legion Papers) and printers made by Canon. In the interests of full disclosure, I am a Moab Master photographer and both companies have sponsored our fine art printing educational efforts. However, for those of you who know me well, after 55 years in photography I do not need to "sell out" to anyone. After decades of experience, Bob and I chose Moab for their excellent fine art papers and phenomenal service and commitment to fine art printing. Yes, we do use other papers occasionally for special projects.

Digital printing is dependent on accurate color reproduction and we exclusively use X-Rite calibration tools in our color-managed workflow. Their i1Studio solution is the backbone of our color management and is affordably priced for home or photography club use.

Canon is another company with service second to none and with a sincere, abiding interest in advancing the art of photographic printing. We absolutely love the prints that come out of their printers. They have fulfilled our vision of my work for many years now. We presently have four workhorse Canon printers in our studio.

Our goal here is to provide you with a work that will get you started, if you are new to printing, and a ready reference if you are an experienced printer. As you can tell, we are passionate about photography and printing.

Throughout this book we will be using Lightroom as our software engine. In any event, we wish you always full cartridges, luscious papers, and flawless prints that are gallery worthy. Now, on to fine art printing!

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# OUR GOALS FOR THIS EBOOK

In *The Art of Fine Art Digital Printing*, we have several goals in mind. First and foremost, we want to help photographers with little or no experience in making fine art prints get set up and started on their personal printmaking journey. Second, we want to present to you a full-fledged workflow, from post-processing to print to display options. We believe that this will help any level printmaker by either presenting a viable workflow or by challenging experienced printmakers with some new ideas and methods. Third, we will be dispelling some printmaking myths and taboos along the way, freeing you up to pursue your creative vision. Finally, throughout the book we will be giving you the tips and techniques that we have learned over decades of printmaking (both wet and digital) and lots of trial and error. And, we hope our use of case studies at the end of this book will bring real-life printing issues to the table and show you ways to deal with them.

This book is not an exhaustive treatise on every concept, button and tool you will deal with in fine art printing. That can only come with experience.

If there is any one thing that characterizes printmaking in our studio it is our constant experimentation. We are always pushing the boundaries of the art print. We continually test new products and production techniques. We perform tests on fixative sprays, new papers, framing methods, new display technologies and state-of-the-art printers. Our resulting suggestions are hardly gospel, but we do hope they inform your printmaking and enable you to get closer to the prints you and your loved ones and clients would like to see on their walls.

We hope that this work will inspire and motivate you to achieve your artistic vision. But we also hope you will gain enough printing "street smarts" to allow that vision to manifest itself on today's fine art papers.

Printmaking is a constantly evolving art. New papers, improved inks, and better printers are always coming into the marketplace. Exciting display options have proliferated. As the field develops, we hope you will continue to refer to this book. We believe that specifics are not as important as concepts. If, after reading this book, you understand the concepts, you will be able to handle whatever innovations will come.

Finally, here is the bottom line; none of this will matter one bit if you do not commit to practice. You will undoubtedly mess up, you will waste expensive ink and paper, you will forget a setting, and your printer may balk. You will likely have to negotiate with your spouse over a new printer purchase. All this and more will frustrate you to no end. Yet, consider this quote from Vincent Van Gogh: "As practice makes perfect, I cannot but make progress; each drawing one makes, each study one paints, is a step forward." Every print you make will be a step forward. Practice, after all, will get you ever closer to perfect prints.

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# USING LIGHTROOM

# USING LIGHTROOM

While there are many software programs that will allow you to post-process your images and ready them for printing, some of them quite good, Lightroom by Adobe has become the de facto standard for photographers. This is primarily the result of the fact that Adobe became entrenched as the post-processing standard with the advent of Photoshop around 1990. In fact, Photoshop so dominated the industry, its title soon became a verb. Even today we say that a manipulated image has been "Photoshopped."

But Photoshop was (and still is!) a bear to learn. It does accomplish some nothing-short-of-amazing results, but climbing the learning curve was too daunting for those unwilling to put in the effort to master its intricacies. Admittedly, I (Les) was originally one of them. As an old school photographer I decided early on that I'd rather be out shooting than be distracted too much in the digital darkroom. Bob, however, took the opposite tack and became the master of Photoshop (and Lightroom) that he is today. He has kept up with every version and knows the program like the back of his hand.

Well, Adobe listened to those who thought like I did and eventually came out with Lightroom. As it has developed and been continuously improved, Lightroom has become an amazing and powerful product for post-processing images. It certainly cannot do everything that Photoshop can. However, I find that Lightroom does about 90-95% of everything I need as far as post-processing my images goes and guiding them through the printer. If I feel an image needs something done in Photoshop, I turn it over to Bob, but that has become increasingly rare over the past few years.

When I come home from an assignment I use Lightroom to download my images, keyword them, rate them, post-process them and print them. I also use it to create slide shows, books and specialized collections. There is simply no way I could manage our photography business without it.

Since this book is not about Lightroom per se, we will not go into its every function and capability. We assume that you have a basic knowledge of and experience with Lightroom. Specifically, you should know the basics of the Library and Develop modules. In a later section, using a case study approach, we will explain how we handle certain challenging image situations that you may face when using the Develop module.

For detailed information about using Lightroom, you really can't do much better than visiting the Adobe site and watching the extensive collection of short, targeted videos by Julieanne Kost, a wonderful instructor. Here is a link to a wide selection of her videos. In the next section I will link you to specific videos that pertain to the issues I am discussing.

http://blogs.adobe.com/jkost/lightroom-training-videos

Since this book focuses on fine art printing, we will focus on the Print Module in detail, with some discussion of how to use the Develop module to prepare your images for printing. The Develop and Print Modules are the two basic functions that you should become proficient in if you want to produce high quality fine art prints.

Once your images are imported into Lightroom (hopefully you have also key-worded and rated them for easy retrieval when you need to find a specific image) you will probably agonize over them to decide which are potentially your finest images. After narrowing them down to a manageable number you will want to open the Develop Module

to begin the post-processing that will advance the best of them from good to great.

We want to pause here to say something about this process. Since the advent of digital we have heard so many times over the years from so-called purists who, stuck in some alternate reality, feel that digital post-processing is a crime of heresy punishable by ostracism and name-calling. The digital darkroom, they claim, is cheating.

We'd like to put that notion to rest, at least for us. Is the digital darkroom really any different from the chemical darkroom, other than the blessed fact that we don't have to immerse our hands in carcinogenic, foul-smelling chemicals for days at a time? Have people forgotten how many weeks - yes, weeks! - Ansel Adams and Edward Weston and Dorothea Lange and the other greats labored over a single print? They spent full days dodging, burning, changing developer times and strengths and proportions and papers. It's silly to postulate, but we feel certain that if Ansel or Edward or Dorothea were alive today they would be hunched over their keyboards and mice happily post-processing their digital images. After all, it was Ansel Adams who said: "You don't take a photograph, you make it."

If you are shooting journalistic, documentary photography then, no, you should not do any over-the-top post-processing that will change the image in any meaningful way. But if you are creating a work of art then you have every right to post-process by any means to fulfill your personal creative vision. 'Nuf said about that!

Finally, success in fine art printing can only come with practice, experience and consistency. Stick with it and you will soon be creating fine art masterpieces that will proudly enhance any space you choose to display it in.

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# THE DEVELOP MODULE: A LOGICAL SEQUENCE

# THE DEVELOP MODULE: A LOGICAL SEQUENCE

Now that you have a few images that you would like to try to kick up a notch or two so that they will become terrific prints, let's follow this post-capture process along. We will first describe the process generically, before going through some specific case studies in later chapters.

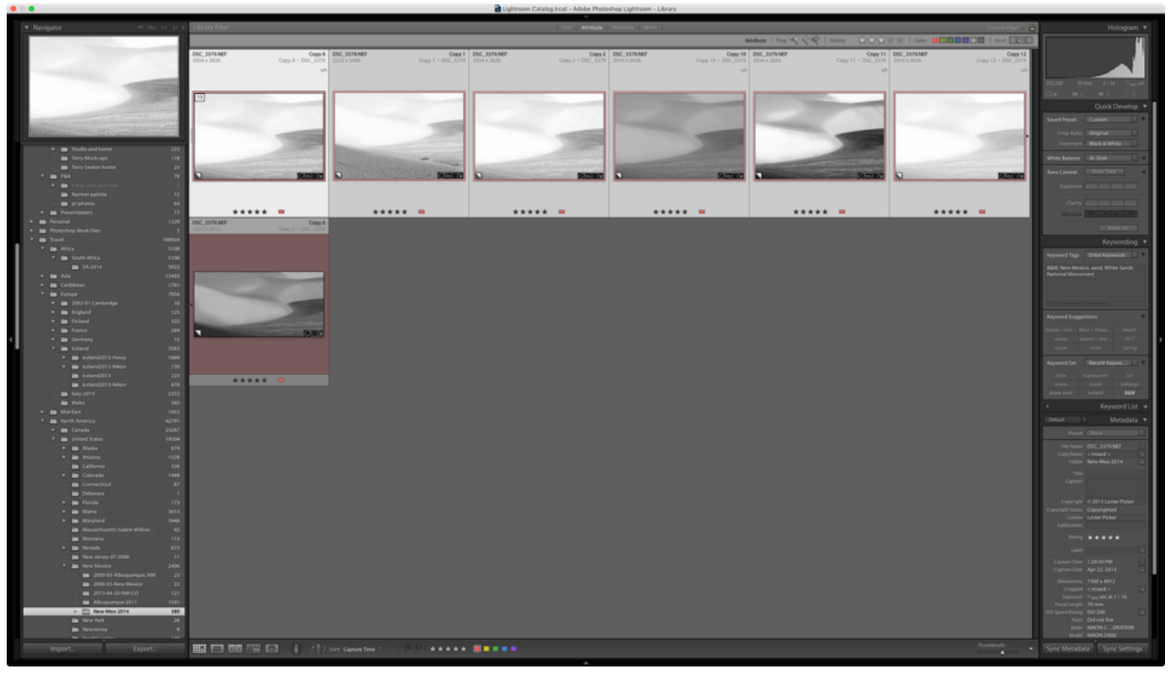
From the Library module, which is where your images first appear when they are imported into Lightroom, you simply press the 'D' key to move an image into the Develop module. Alternately, you can go to the top banner and click on Develop, or get there through the drop-down menu. Lightroom usually offers multiple ways to accomplish any given task.

Theoretically, the Lightroom Develop module is arranged to be used in sequence. But, Adobe has made it so that you are not required to go in any order, and we often skip around when it suits us. On the other hand, you will certainly not go wrong if you take an image through the Develop module sequentially, starting from the top.

Once you have imported your images into Lightroom, we suggest that you keyword your images and rate them before leaving the Library module. In our system an image must have at least two stars, meaning that it passed certain of my criteria, before I declare it ready to play with further to explore its potential as an eventual print. Only carefully curated images earn the right to be printed and only then earn 5-stars in our system.

## VIRTUAL COPY

Before I take that image into the Develop module, there is one thing I like to do. I make a virtual copy of it and work on that, rather than working on the original image. A couple of explanations are in order. First, Lightroom does not actually make any changes to your original images, so you could safely work your edits on that original image. This is called non-destructive editing. You can always revert to your original-from-the-camera image at any time you choose. When you edit that original, Lightroom simply creates a set of side instructions (sometimes called a sidecar) that tells it how the image should look on-screen with your changes, but it does not permanently alter that original in any fashion.



So why do I create a virtual copy and work on that rather than the original? I find it easier to work on one image and then arrow quickly back and forth to see how it is evolving. I also like to have the original as a stand-alone in my folder and then have a set of one, two or more different renditions of that image all lined up in the Library. It's like a historical timeline of the work I have done on that image and a historical record of the various ways my vision of it has changed

over a period of time. I'll often go back to an image years later and wonder what I had been drinking when I originally edited it. I then make another virtual copy and work on it anew.

## INTO DEVELOP

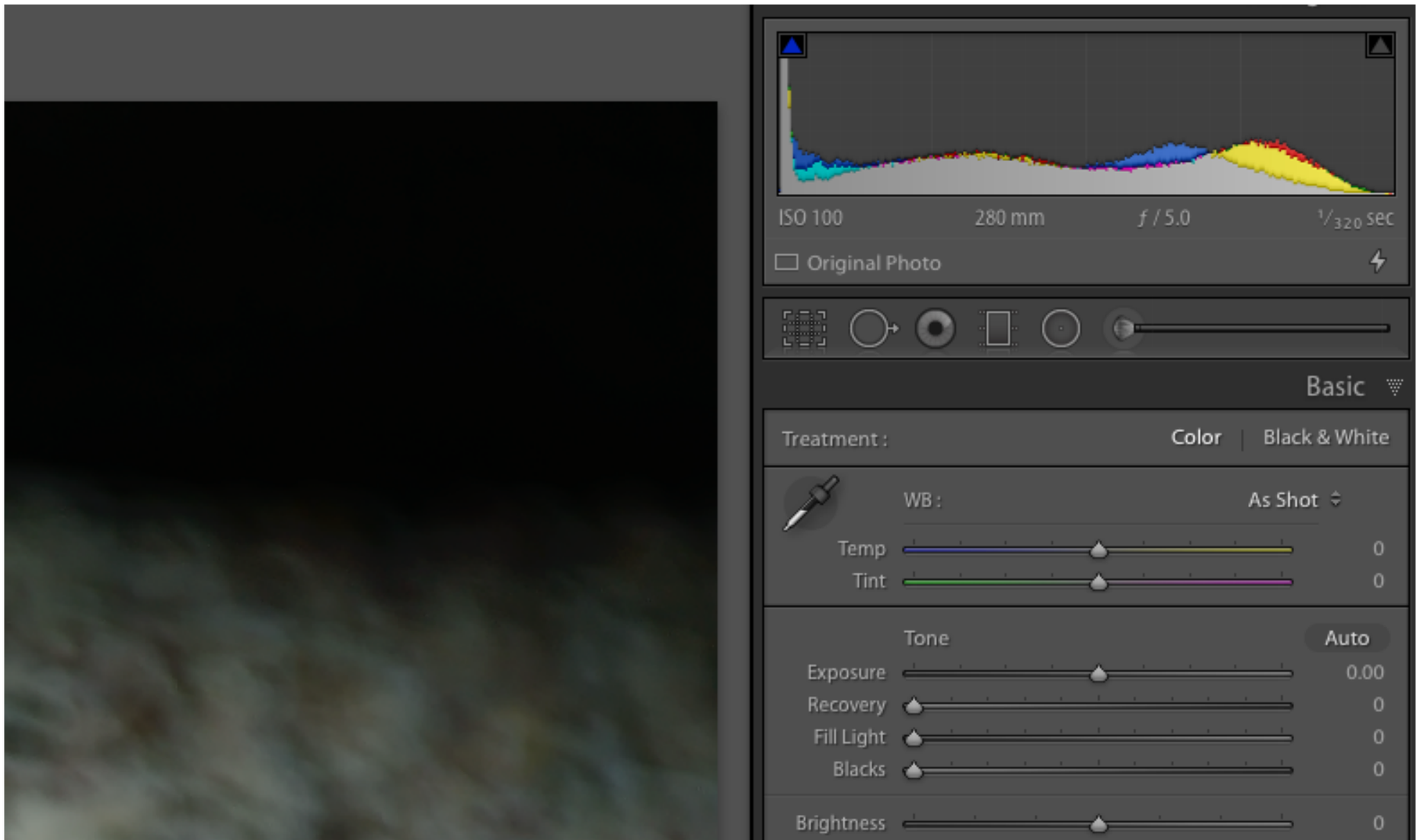
Once I have created the virtual copy, I click on the develop module (or hit the 'D' key) and the image instantly appears in that module. You can also make that digital copy **after** you are in the Develop module.

The Develop panel on the right side of the screen is divided into sections, which are described below.

## THE HISTOGRAM

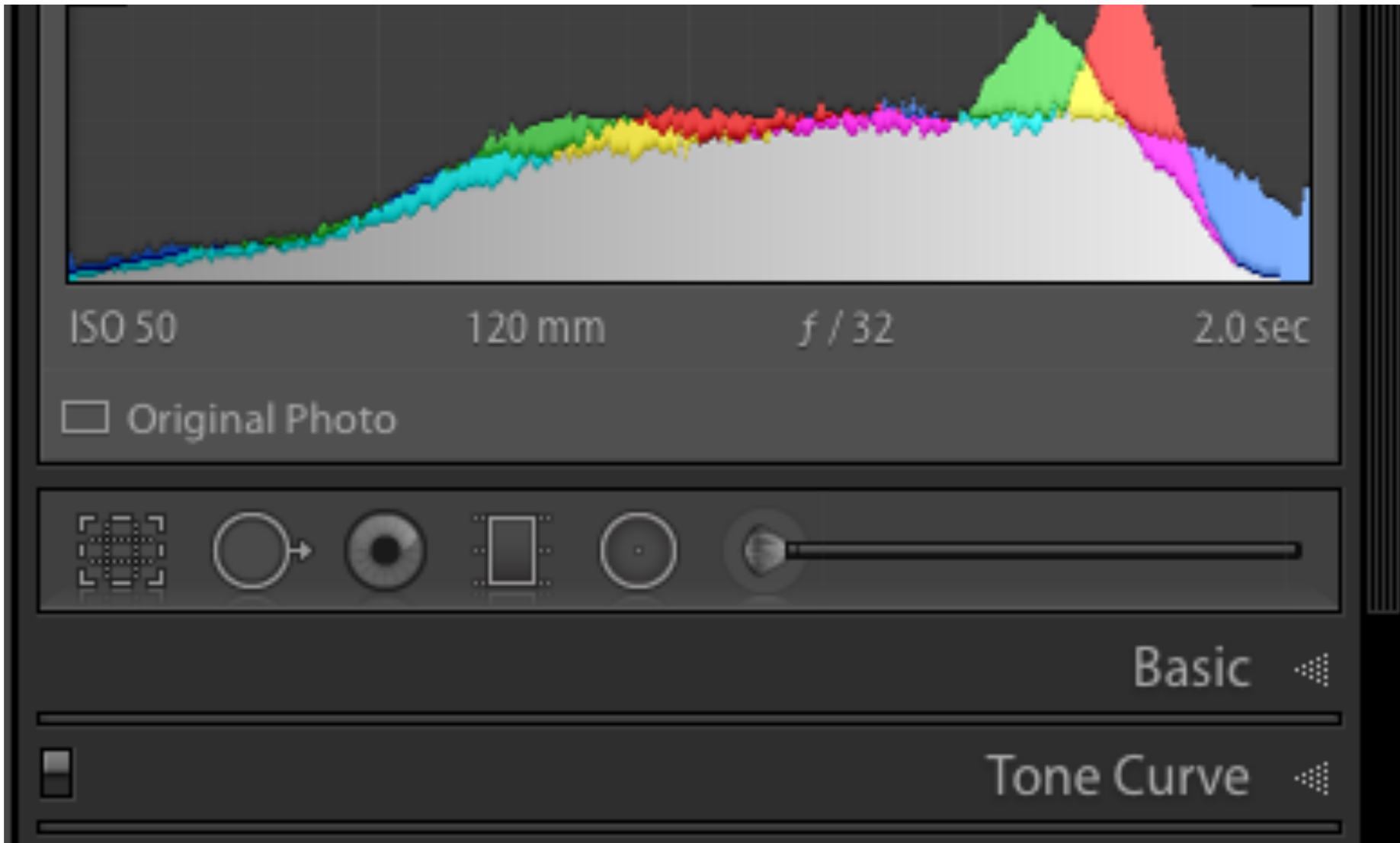
The first thing you see at the top right is the histogram of your image. Before you get started with changes to your image, check the histogram carefully. In most cases, but not all, you will want to drag the whites to the right and the blacks to the left until the pixels just barely touch the right and left walls, respectively. This ensures that no pixels are wasted, resulting in a far better image down the road.

3.1.1



This can be done in a few different ways. I'll explain two of these methods in the section on The Basic Panel (figure 3.1.1).

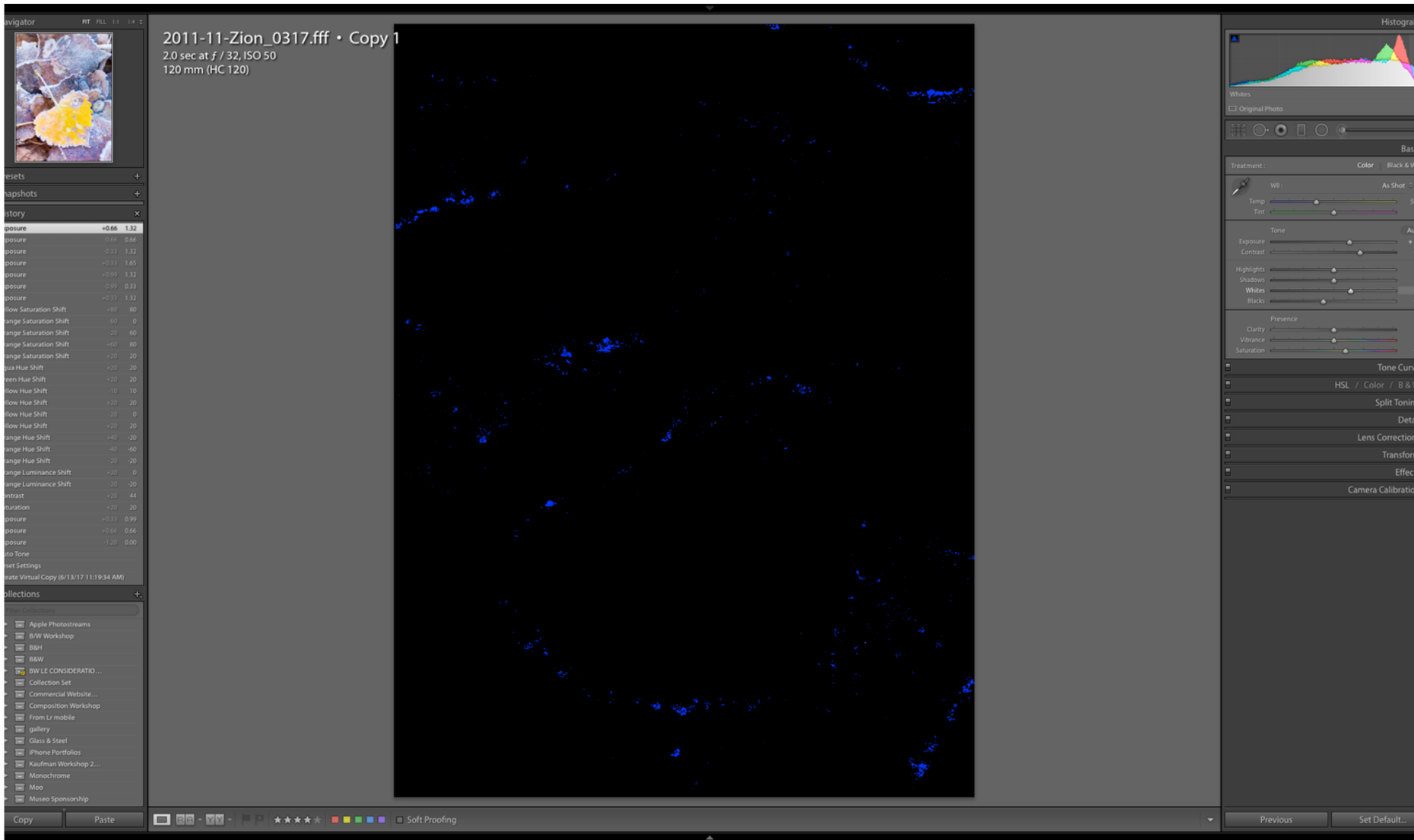
### 3.1.2



# THE LOCAL ADJUSTMENTS PANEL

Just below the histogram is a bar with symbols on it. These allow you to make highly selective, local adjustments to your image. I'll show you how we use those adjustments as we work through our case studies.

3.1.3



## THE BASIC PANEL

You can do a lot to modify your image with the Basic panel and, in fact, many good photographers I know never go beyond this module. You can change the temperature, exposure, contrast and much more here.

All edits you make in the Basic panel are what are known as global adjustments. That means that the edit will apply to the entire image. So, for example, if you decide to add more exposure to the image, the entire image will lighten, in the highlights as well as in the shadows.

What I usually do in the Basic panel is go immediately to the Whites and Blacks slider. I hold down the Option key as I drag the Whites slider to the right. The first thing that happens is that the screen goes completely dark. As I drag, at some point a series of white dots and streaks will start to appear. I back up the slider until the very first dots begin to appear and I stop (figure 3.1.3). If you look back at your histogram, you will see that the right graph is now neatly touching the right wall. That is good.

I now do the same with the Blacks, except now I move the slider to the left until black dots just begin to appear and I stop. Now my histogram almost touches the left wall. Perfect.

(Another method of stretching the histogram so that you are taking advantage of all the pixels in your image is to simply grab the end of the histogram graph and pull it to the right and left. As you do this, look at the arrow at the top right and left in the histogram box. When you pull right, stop when the arrow lights up. Ditto with the left side.)

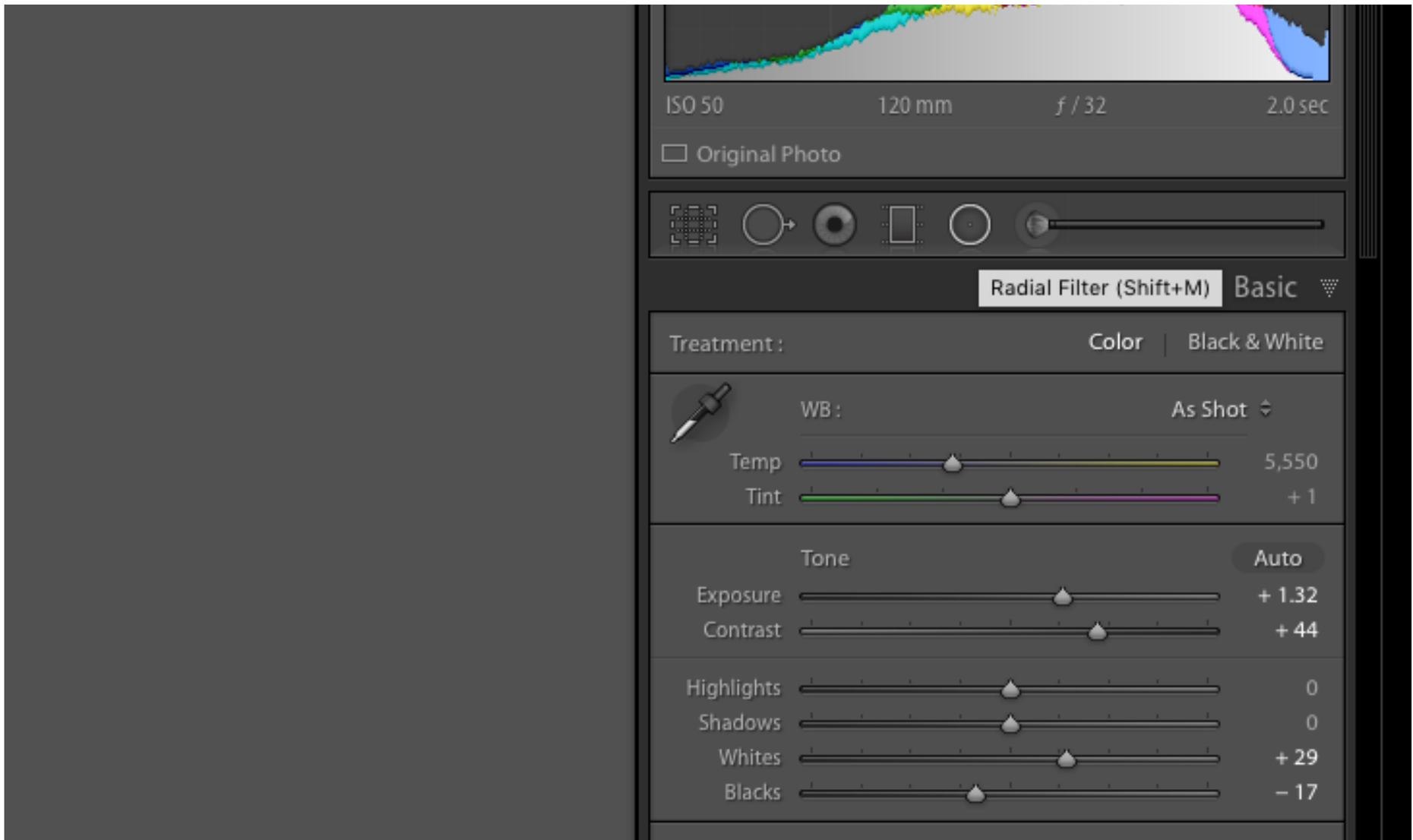
Once I finish with the white and black sliders, I carefully check the image to see if it will benefit from the other sliders. If the image is too dark or light, I will move the Exposure slider to the right or left. However, I tread lightly here, too, because most exposure adjustments I find are better made using the localized Adjustment brushes (discussed later).

I might also play with the Highlights and Shadows sliders if I feel there are areas that are too bright or too dark. These sliders effect any of those areas throughout the image. I will sometimes use a Clarity adjustment, although I do so with a very light touch so as not to make the image appear garish.

# THE LOCAL ADJUSTMENTS PANEL

You will use the Local Adjustments panel often once you gain experience with Lightroom. The advantage of using this set of adjustments is that they apply to just the areas you specify, without affecting other parts of the image. If you hover your cursor over any of the symbols you will see it named (figure 3.1.4).

3.1.4



# CROP OVERLAY

This tool allows you to crop your image, correct the level, and change the image ratio. We'll see examples in the Case Studies section.

3.1.5

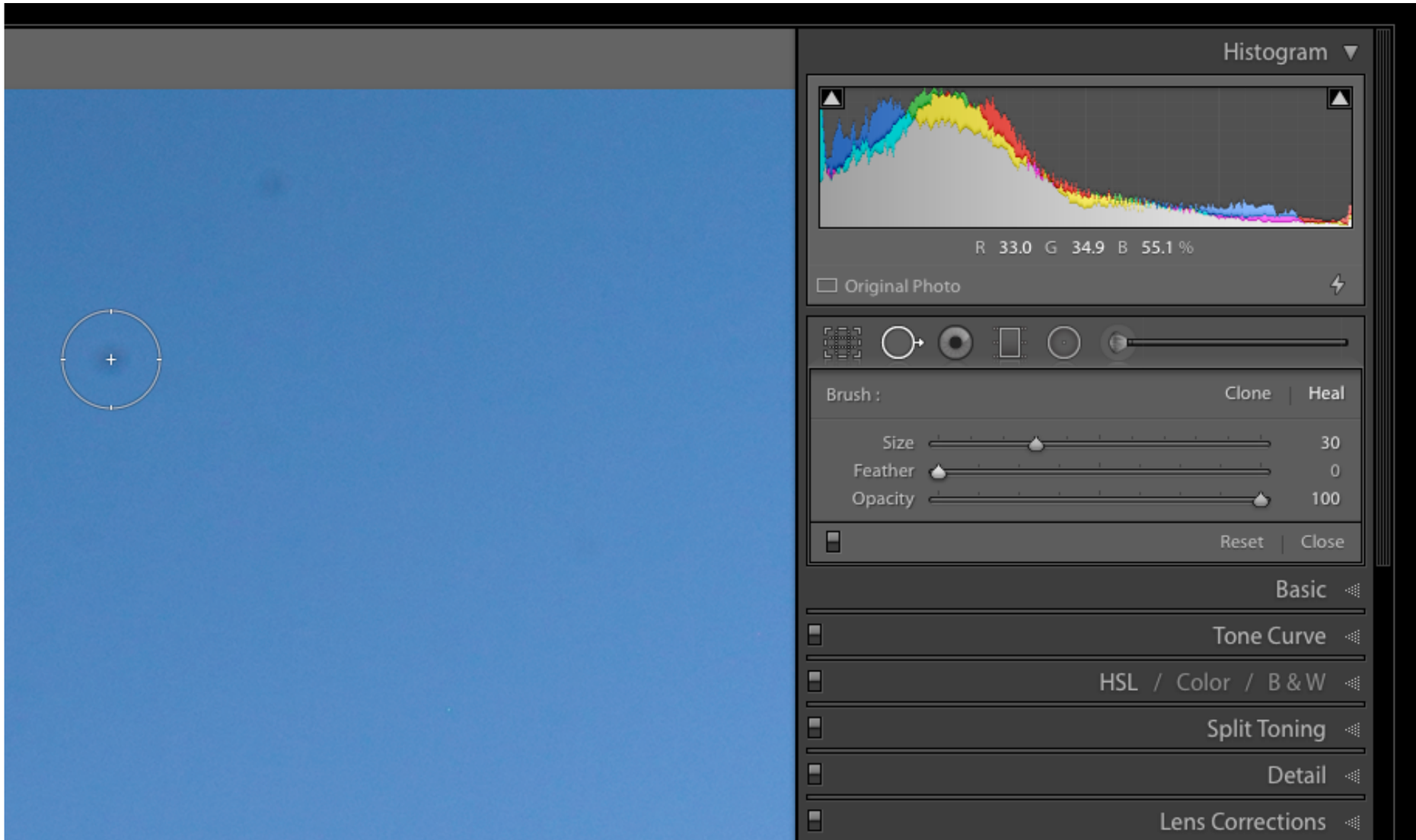
## SPOT REMOVAL

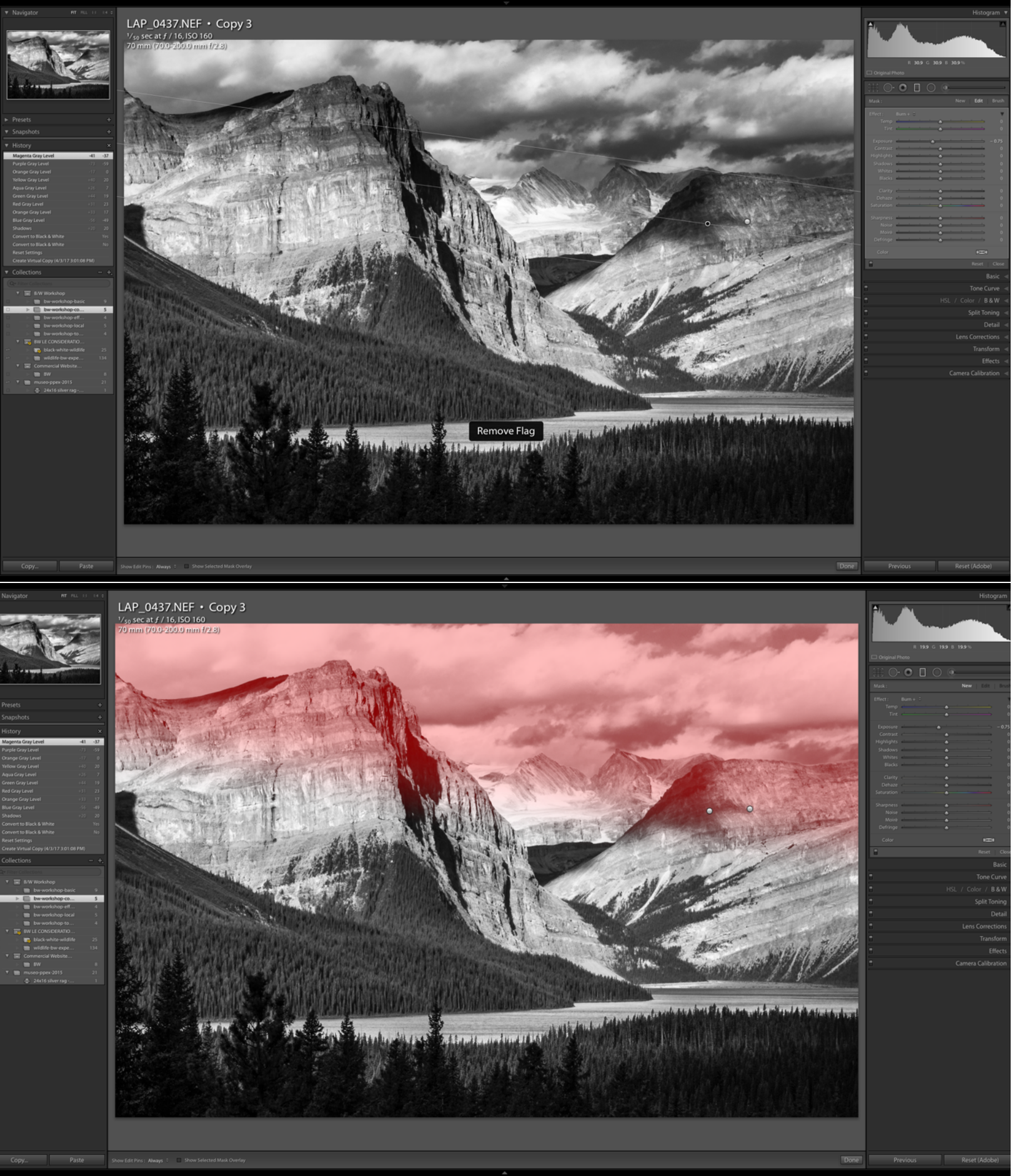
This tool does exactly what it says. Dust is the enemy of all sensors and when dust particles fall on it they leave tiny dots on your images. Water droplets on the front of your lens can also ruin an image. This tool does a remarkable job in removing dust and water spots (and even the occasional ex-spouse!). Employing this tool effectively takes practice (figure 3.1.6).

## RED EYE CORRECTION

Ah, the bane of flash photography! This tool will fix that… well most of the time.

3.1.6






# GRADUATED FILTER

This is one of my favorite tools in Lightroom and you would do well to master its use. The Graduated Filter can save you lots of time and can result in far better images. Let's take a quick look at how it works.

Let's say you want to darken the sky in an image, get the clouds to pop a bit, and make the sky just a bit bluer. You can accomplish that in a few seconds with the Graduated Filter. For a wonderful 5-minute video that will explain the Graduated Filter (and Radial Filter) in detail, **click here. (http://www.jkost.com/lightroom.html and scroll down to "Getting Started in Lightroom CC: Using the Radial and Graduated Filters"**

# RADIAL FILTER

See the video cited above.

# ADJUSTMENT BRUSH

Of all the local adjustment tools, the Adjustment Brush is arguably the most used and useful. In combination with the Graduated and Radial Filter, you will be using this tool over and over again.

The Brush allows you to make detailed edits on individual components of the image without effecting the rest of the image. For example, you could lighten one tree, instead of an entire group of trees, or darken just the jacket a woman is wearing, without affecting the rest of her clothes.

When you click on the Brush, a drop-down list of options opens, allowing you to access all of the items you will find in the Basic panel, only this time applied only to the sections of the image you are targeting. Once again, here is a good video of how to use the Adjustment Brush. http://www.jkost.com/lightroom.html and scroll down to “Getting Started in Lightroom CC: Enhancing Isolated Areas of an Image with the Adjustment Brush”

# TONE CURVE

The tone curve is a method of adjusting the relative contrast of an image in different segments of the histogram. With it you can control the lightness and darkness of specific parts of the image. What you will want to do most of the time is to create a gradual “S-Curve” where the darks and lights are emphasized, as in figure 3.1.7.

Note that in the paragraph above I said “most of the time.” There will be times when in a specific image you have you may want to actually decrease contrast to achieve an artistic effect. If so, go ahead and experiment. Remember that Lightroom is non-destructive, so you can always undo an effect or reset the image back to its original state.

Adjusting the curve can also be somewhat affected by using the Whites and Blacks sliders, as we demonstrated in the The Basic Panel section, above. However, the Tone Curve panel offers a much more sophisticated and detailed way to accomplish this. We strongly recommend that as you learn to use Lightroom, you gain ex-

figure 3.1.7

perience using the Tone Curve panel, as contrast adjustments are critical to good prints.

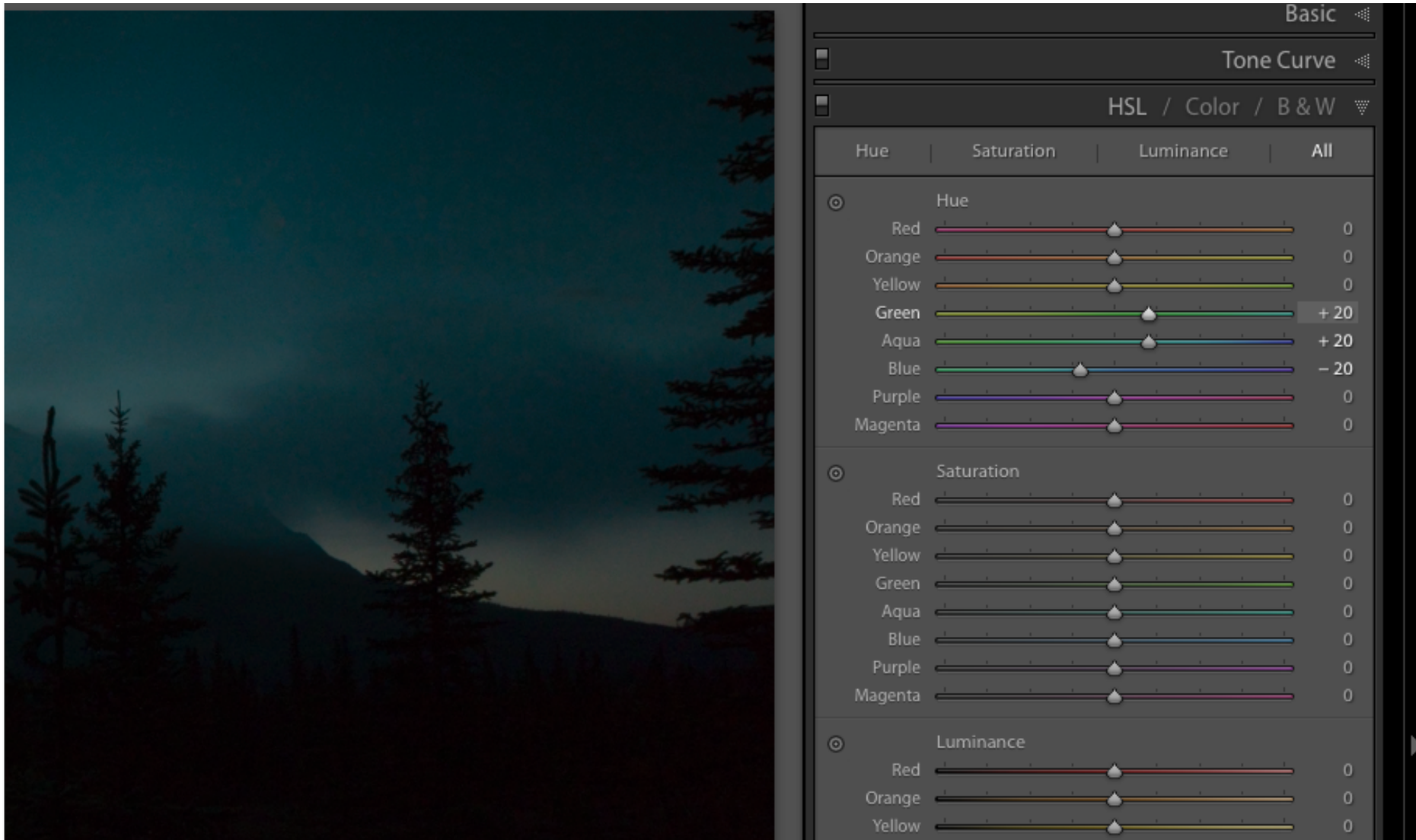
For more on adjusting the tone curve, view this video: https://helpx.adobe.com/lightroom/how-to/lightroom-adjust-tone-curve.html

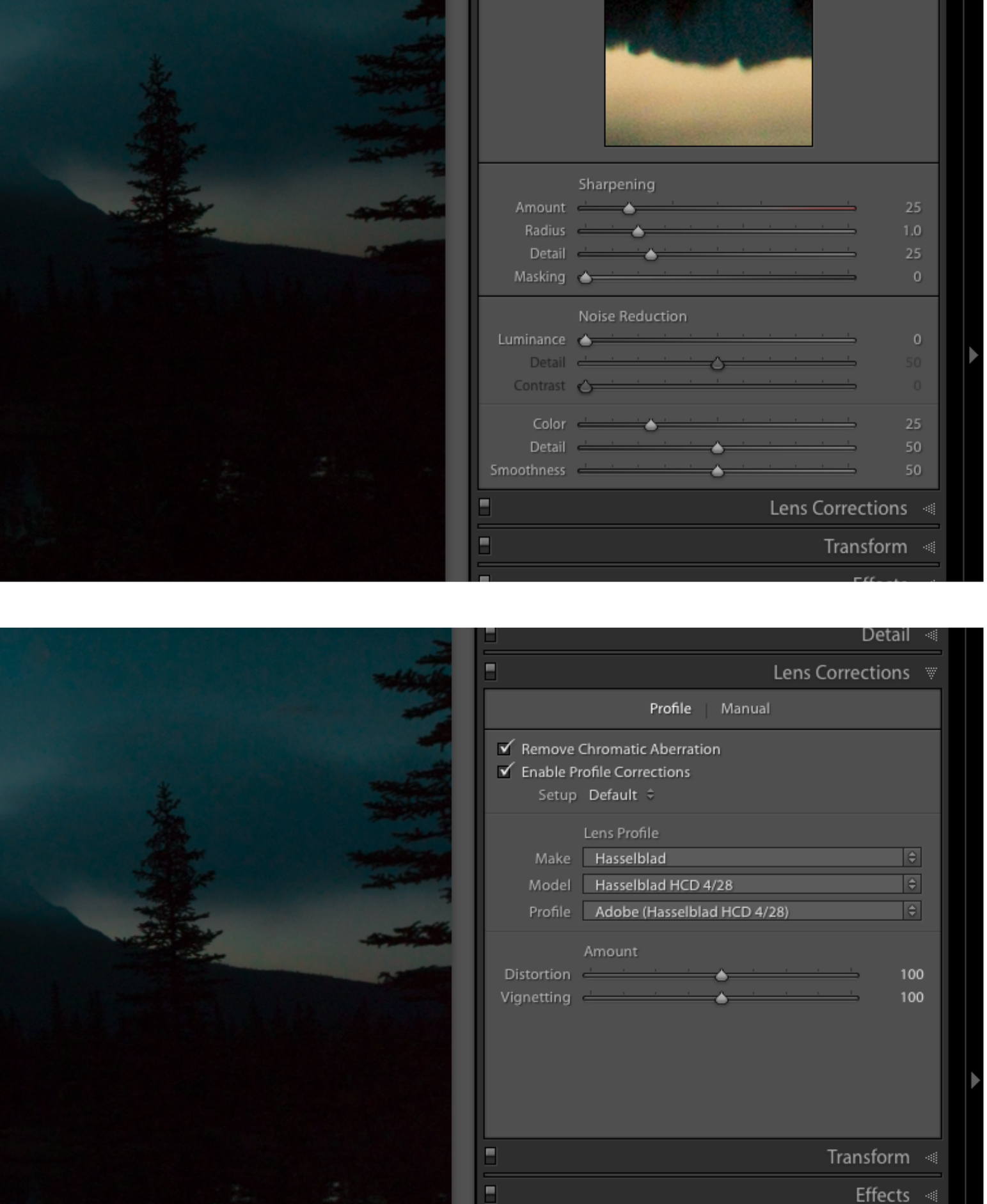
## HSL

HSL stands for Hue, Saturation and Luminance and in this panel you can do amazing creative things to your images. It is beyond the scope of this book, but once again Julieanne Kost comes to the rescue with a concise and informative video showing you the power of the HSL panel: http://blogs.adobe.com/jkost/2015/05/lightroom-cc-changing-hue-saturation-and-luminance.html

HSL edits are hugely important when it comes to printing. Learn how to use the Targeted Adjustment tool with HSL to fine tune the colors in your prints.

3.1.8






## DETAIL

It is in the Detail panel that you will find the tools you need to sharpen and reduce noise in your images.

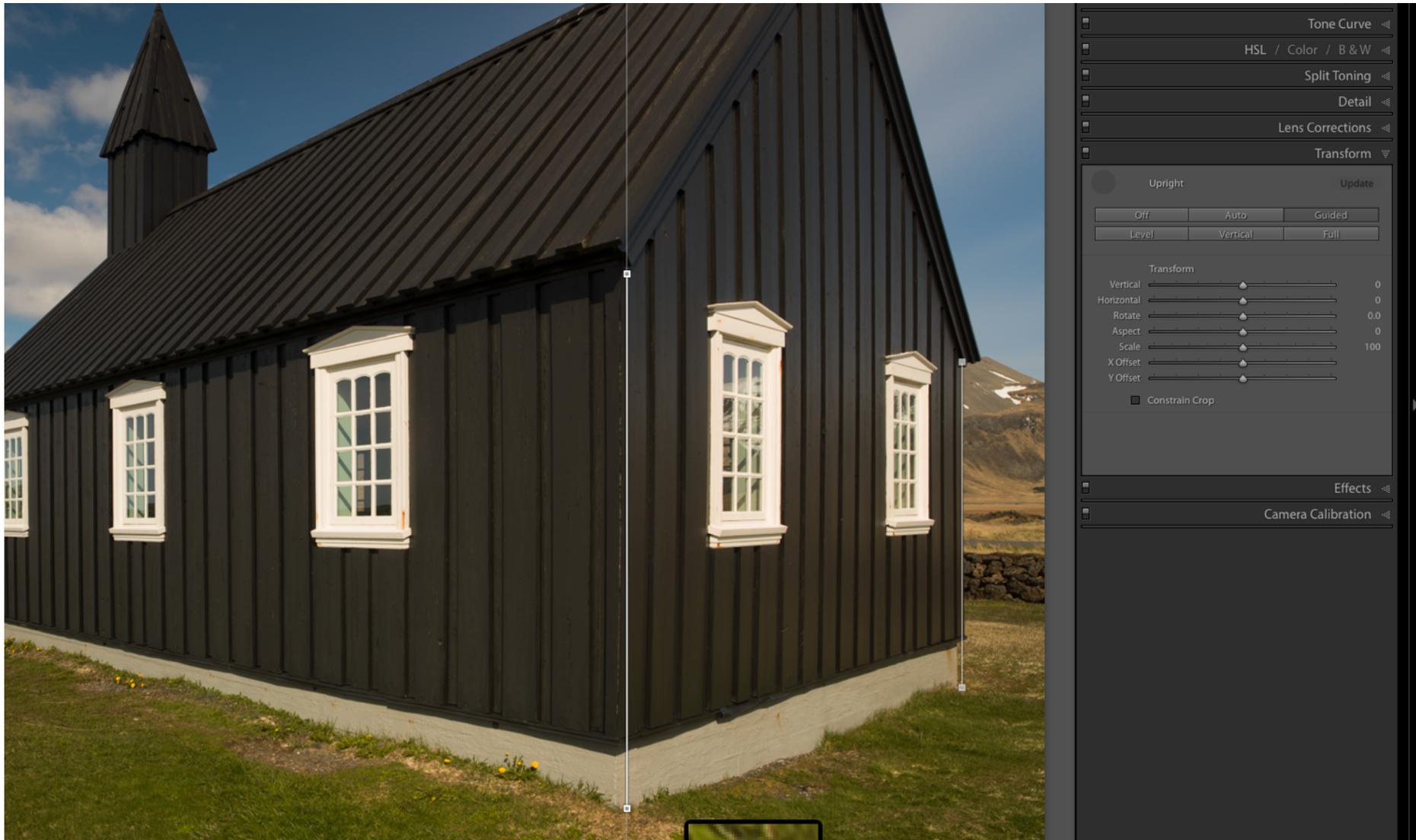
## LENS CORRECTION

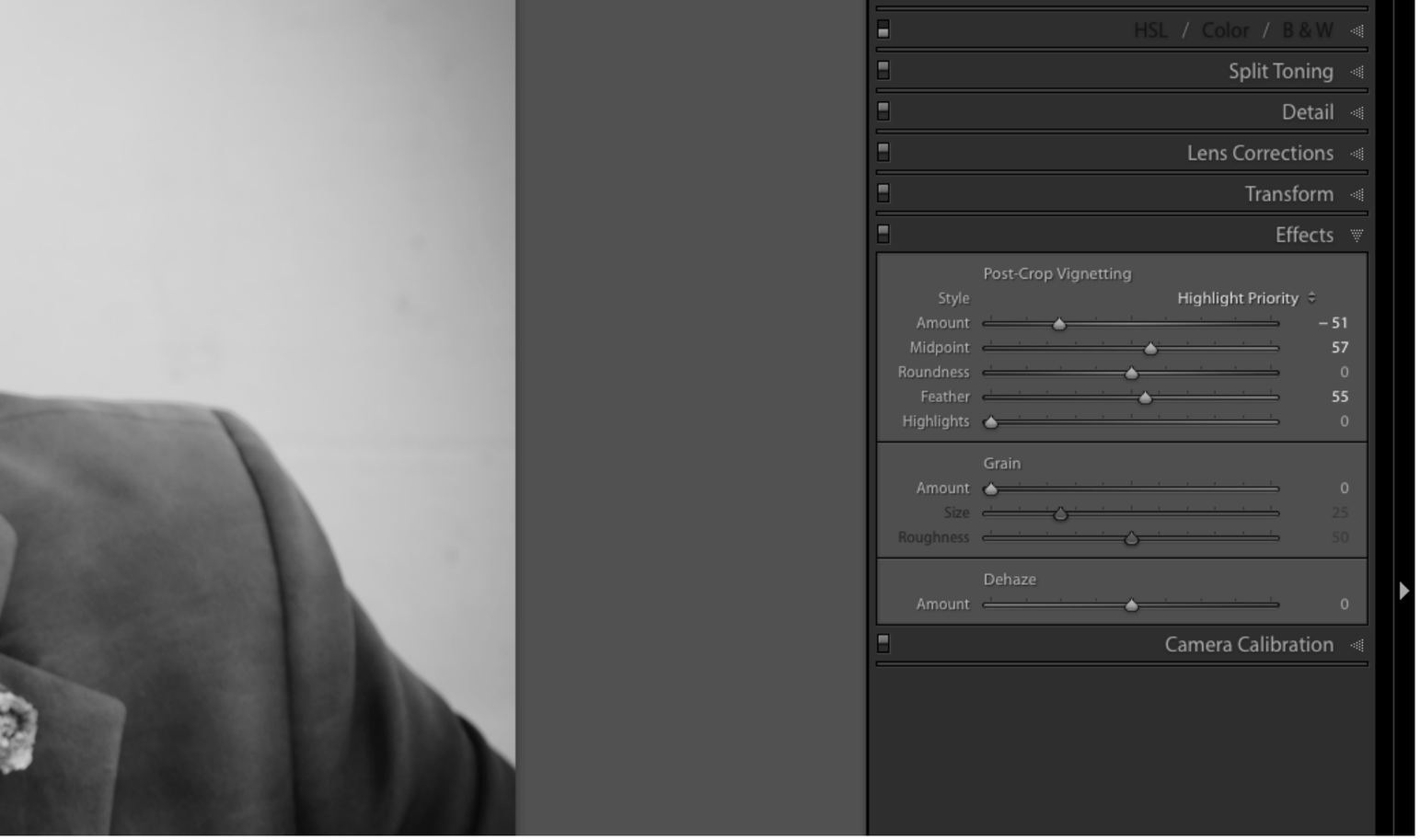
I almost always use the lens correction module if I plan on editing an image. What this does is apply a correction for any distortion caused by your specific lens.

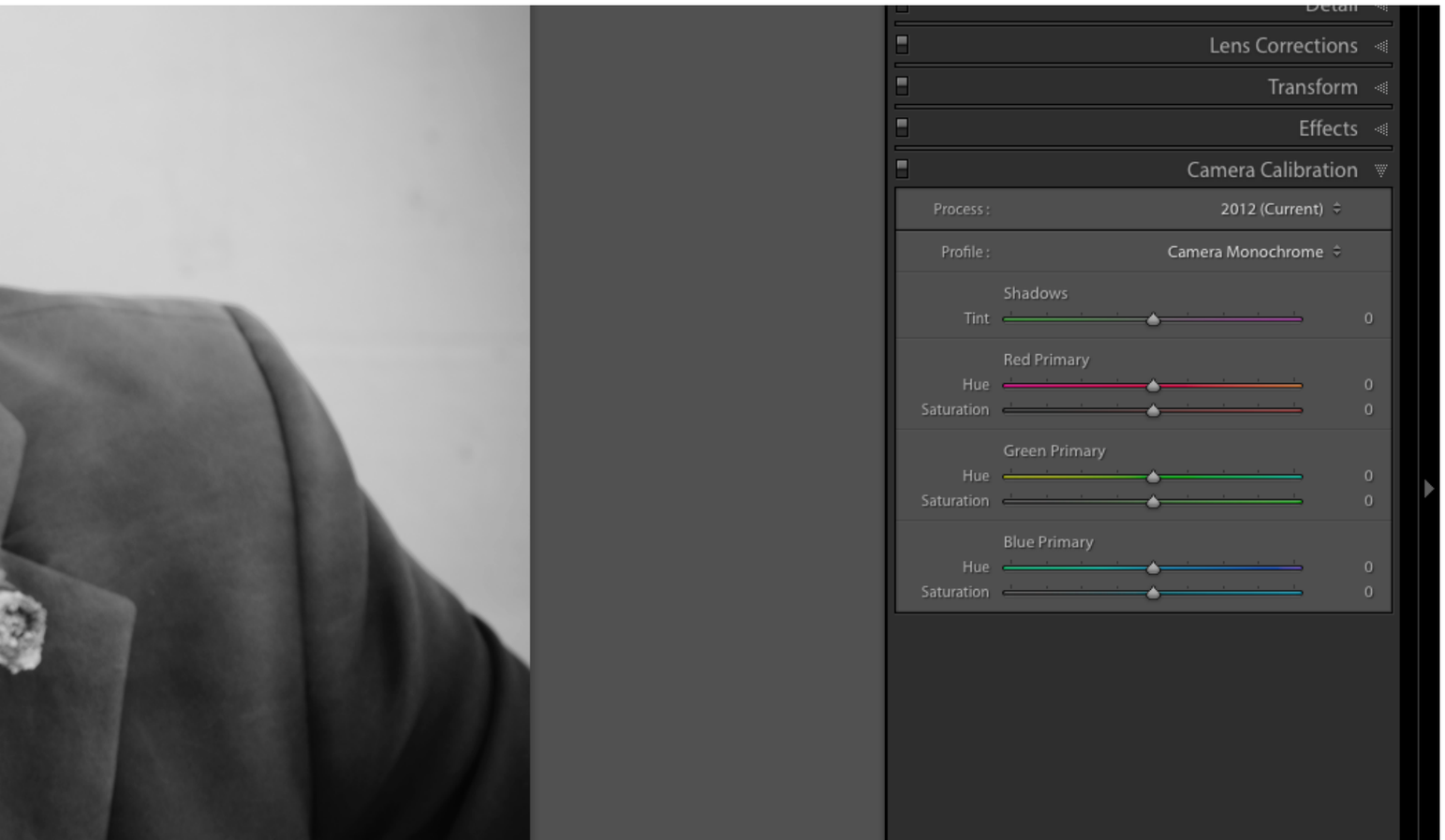
# TRANSFORM

Use of the Transform module is beyond the scope of this book. Using this tool allows you to create dramatic alterations to your images, straightening perspective lines, correcting (or intentionally creating) distortions and a whole lot more. If you want to see what this tool can do, I suggest making several digital copies of an image and then playing with them within the Transform Module. Here is Julieanne Kost's take on this:
https://www.youtube.com/watch?v=jIp8iXoWvU8

## 3.1.9






## EFFECTS

This module offers a few very useful tools. If you are capturing images of animals, people or an object isolated by large amounts of space, the Post-Crop Vignetting tool creates a pleasing vignette around the edges of the image, thereby allowing the eye to move naturally to the area that is most critical.

The Grain feature allows you to introduce grain in the image, which is useful if you want to create film-like feel to your image. It works especially well with black and white imagery.

Finally, the module offers a powerful global Dehaze option.

Julieanne Kost explains the use of the tool here:

https://www.youtube.com/watch?v=LenJEN15vC4&feature=youtu.be

## CAMERA CALIBRATION

You will probably want to be sure that you are using the very latest Adobe algorithms for your image. After clicking on this module, look at the first box labeled “Process.” In most cases you’ll want to choose the

"current" version of Lightroom's processing engine.

Under this module you will also see a box labeled Profile. Next to it is a drop-down menu. This menu allows you to globally quickly change the image for Portrait, Landscape, Vivid and more. It's fun to experiment with this tool. In fact, this qualifies as a potential exception to the rule of following the Develop module in sequence. I will often go to this module first just to see how big a difference a global adjustment can make.

## ... AND SOME TIPS, TECHNIQUES AND TECH TOOLS

**Control Your Light Sources.** The viewing light you work under is critical. Make sure you have adequate, but not too much light. Keep your light sources consistent and avoid glare on your screen.

**Room Environment.** The color of your walls and even your clothing can have measurable effects on how you perceive color in your images. It's best to have neutral color for your walls and clothing.

**Adjust Your Desktop.** Adjust your monitor desktop so that you have neutral colors at the screen margins. Also, do not have wild colors as your screen saver. Minimize computer distractions that have loud colors, such as games.

**Take a Break.** When your eyes become exhausted from too long a session at the computer, take a rest. That eases eye strain, but also changes your perception of color. Most experts recommend regular 15 minute breaks away from the computer.

**Profile Your Monitor.** Do this on a regular basis. We explain more about this later in the book.

5

# COLOR MANAGEMENT

# COLOR MANAGEMENT

Color is a combination of hue, saturation and lightness (HSL). Color management refers to a set of systems and standards that attempt to translate the reality of the color captured by your camera to the image displayed on a screen and/or printed on paper. Software algorithms try to make this translation as accurate as possible, considering those very diverse media.

Nowadays, thankfully, there is not a lot the end user needs to worry about. Most of this translation occurs automatically in the background. Lightroom, for example, takes the picture data file from your camera and automatically translates it into the right color space for your monitor. However, as a photographer who wants to create a print on paper, you should be aware of a few aspects of this process that could affect the end result.

The only pieces that you need to focus on, in any given printing circumstance, are two ICC profiles. ICC profiles refer to a set of data that define a color input device (your camera, for example) or color output device (your monitor or printer, for example).

The first ICC profile that you need to concern yourself with is that for your monitor, discussed later in this chapter. The second critical piece is the ICC profile for the printer/paper combination that you are using to generate the print. Each paper manufacturer tries to make available to you the proper ICC profile to use with every major printer on the market. Click here for a blog I wrote about ICC profiles.

# COLOR SPACES

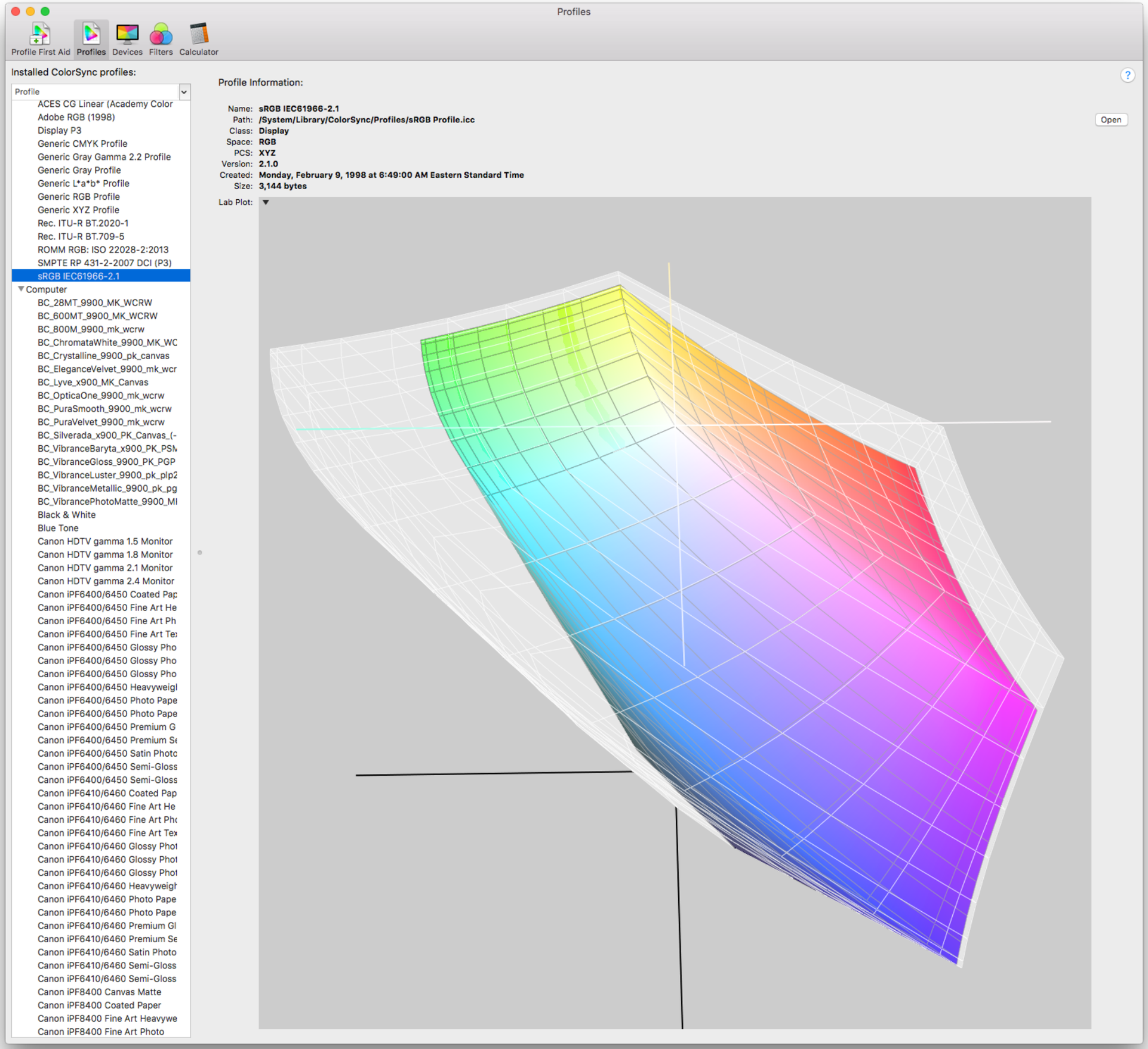
Technology and tools change all the time, so instead of issuing some prescription of what is proper or the best equipment and procedure at any given moment, let's take a look at a visual representation of the issues involved. What follows are static screen shots of three dimensional models comparing various color spaces. If you are using a Mac you can make some of these comparisons yourself using the ColorSync Utility app included with MacOS. If you do use that utility, you can rotate the color spaces in three dimensions. It's kinda fun!

# ADOBE RGB VS. SRGB

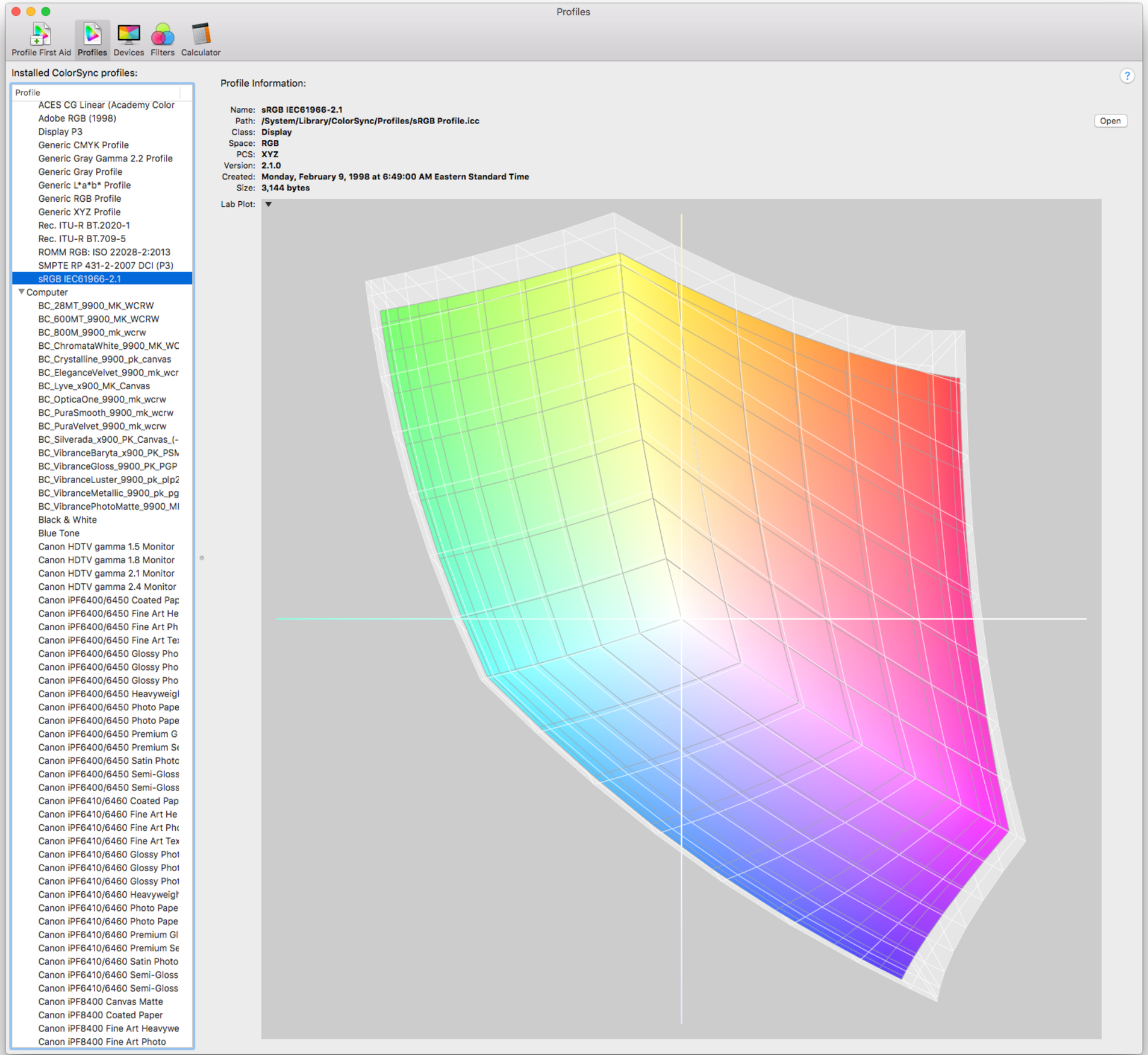
First up, let's take a look at the difference between two color spaces most folks have heard of, sRGB and Adobe RGB. In the illustration 5.1.1, the grayed-out space represents Adobe RGB, while the colored space represents sRGB. This means that Adobe RGB can represent more colors since it's volume, as represented three dimensionally, is larger. Does this mean it is *better* than sRGB? Technically it's a larger space representing a larger gamut, but let's reserve judgement on better or worse based on what follows.

Next we'll take a look at the sRGB color space as compared to a relatively good monitor that is in common use by photographers, the Apple 27-inch iMac. In the illustration 5.1.2 the grayed-out space is the color space of the iMac 27-inch. The colored area is sRGB. The iMac is a little larger than sRGB but they are well matched in terms of shape of the space and overall colors that can be contained. Having that little bit extra ensures that at the very least one can see all of the colors in the color space most used for consumption on the web.

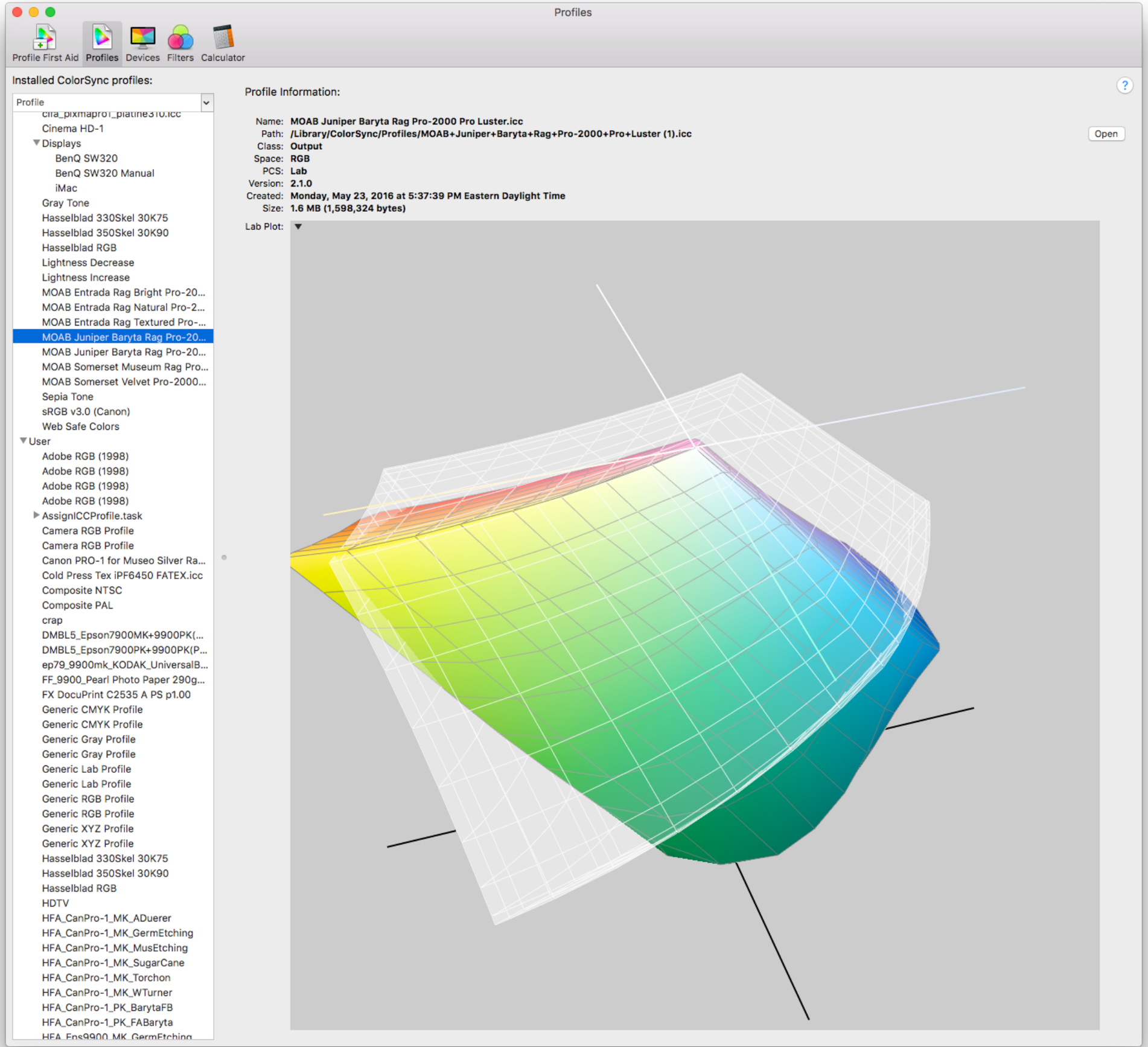
# Adobe RGB v sRGB 5.1.1



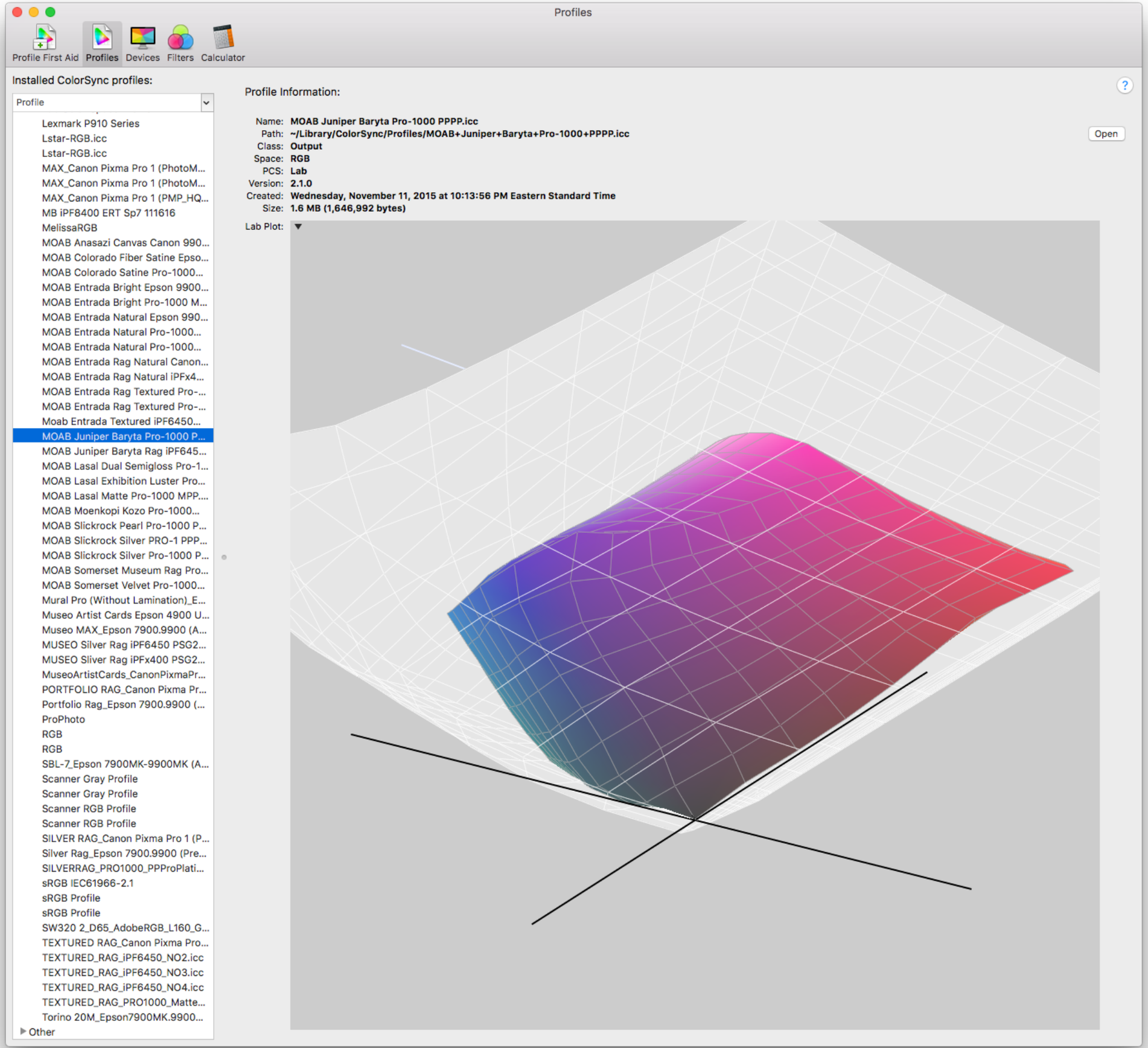
# Monitor profile v sRGB 5.1.2



## Paper profile v Adobe RGB 5.1.3



## Paper profile v Prophoto RGB 5.1.4



sRGB was designed specifically to represent what monitor technology was (and still is) capable of displaying.

The next comparison we'll make is Adobe RGB versus the color space of a typical fine-art semi-gloss paper printed on a printer capable of a wide gamut: Moab Juniper Rag printed on a Canon Pro-1000. The grayed-out area in illustration 5.1.3 is Adobe RGB. The colored area represents the paper and printer combination.

Let's assume for a moment that you've invested in a monitor that can display the entire gamut of Adobe RGB. What this graph shows is that you can now see many more colors in some areas that cannot be represented on a very good paper using a high-gamut printer. Monitors are very good at displaying very bright, very saturated colors but they are not at all suited to displaying some areas that paper/printer combinations are well suited to, such as those deeper, darker blues and greens.

This last graphic in illustration 5.1.4 compares Prophoto RGB vs that paper/printer combination of Moab Juniper Rag and the Canon Pro-1000. As of this writing no monitors at any price are capable of displaying the entire Prophoto RGB color space. Let's take a look at why that's important and what it means to your evaluation and color output.

## THE IMPORTANCE OF PROPHOTO RGB

Clearly Prophoto RGB color space contains everything, all the colors that can be represented not only on monitors but also on paper and printer combinations. The reason this is relevant, even if monitors don't exist that can display the entire Prophoto RGB colorspace, lies in the mismatch illustrated previously between monitor technology and paper/printer capabilities.

When working in the Develop module of Adobe Lightroom, the internal color space being used is Prophoto RGB. This space can represent what cameras are capable of capturing, monitors are capable of displaying, and paper/printers are capable of reproducing even if you cannot see some of those colors on any monitor.

Understanding this is key to understanding what is being displayed using Lightroom's *soft proofing* tool within the Develop module (we'll cover that later). Working in this Prophoto RGB color space ensures that no colors are lost that can possibly be displayed on a different output medium. It does **not** ensure that the colors you can see on your monitor are represented the same precise way in a print. That last statement is crucial to understanding that color accuracy is not the same as what you see on the screen , nor is it exactly what the output will look like on any given print. In fact - and this is rarely mentioned - the concept of accuracy can be at cross purposes to producing an artistic fine art print.

## COLOR SPACE CONVERSIONS, PROPHOTO RGB & RENDERING INTENT

To illustrate why it **may be** important to reproduce a color that you cannot see on any monitor, let's take a hypothetical, but realistic scenario. Let's assume you have a camera capable of capturing a very specific color — let's say Pantone® 17-4028 TCX Riverside.

This is important because you are photographing an advertising campaign for a big-name designer and Riverside color is all the rage in this year's winter fashion collections. As a professional you do all of the things you need to do to accurately represent that color on site, using color checkers and custom white balances along with light sources providing consistent color.

Pantone color swatch
5.1.5

Now, let's pretend that Riverside cannot be represented on your monitor or even in the Adobe RGB color space, but can be reproduced in the color process used for advertising signage and in print media. This is not a big deal online, because color representation is all over the map as consumed on monitors, from horrid to great.

It's an important requirement  for the in-store signage, promo material and displays to match the clothing. This is where Prophoto RGB (by default used in the Develop module) comes to the rescue. It can represent Riverside accurately and will carry it thru the entire process *even though you can't see Riverside exactly on your monitor*. If you are proofing it yourself, that color will come out perfectly on your print and match a Pantone® Riverside fabric swatch, so long as your paper/printer combination can represent it.

Keep in mind that if you were working in Adobe RGB, Riverside would be converted to something similar looking but not precisely Riverside. The specific Pantone® 17-4028 TCX Riverside would be *lost*. If you export the image file using Adobe RGB or sRGB it would also be converted to something similar but not exactly Pantone 17-4028.

The last thing in the example we'd like to highlight is the conversion process itself. When the color is translated by the software to something similar, the method used is called the *rendering intent*. Two common processes are used and both are available in the Lightroom Print Module. The first rendering intent is called *perceptual* and the second is called *relative colorimetric*.

In most pictorial situations there is not going to be a gigantic difference between the two rendering methods. Defaulting to *perceptual* is a good idea in most cases. Perceptual rendering intent is designed to give the best overall impression of the relationship between all the colors in a picture by allowing the software to manipulate colors that are both within and outside of the gamut of a paper/printer combination. There is a potential that manipulating colors that are inside the paper/printer gamut in order to preserve a visual relationship for colors that are outside of that gamut will adversely affect a specific color that must be accurate (such as a commercial brand color).

*Relative colorimetric* will only adjust the colors that are out of gamut by picking the closest color. You can probably see that in the case of wanting to preserve that Riverside Blue you would not want to use perceptual. Doing so **might** adjust that specific Riverside color even though it can be represented within the target output. This might be the case because it happens to be next to a color that cannot be represented. Relative colorimetric will only adjust the out of gamut color and not attempt to alter the perceptual relationship by messing around with both. Keep in mind you can't actually see either on your monitor. We'll cover what that might mean in Chapter 6: *Lightroom Soft-proofing.*

**Aside**: Strange as it seems, Lightroom uses different color spaces in the Library module vs the Develop module. In the Library module it uses Adobe RGB and in the Develop module it uses Prophoto RGB. What practical value does this have for you, the photographer aiming to create fine art prints? Actually, it doesn't really matter much what goes on inside the black box, but we wanted to be precise and at least alert you to this.

For those of you who would like a fuller explanation of the perceptual versus relative colorimetric rendering intents, see:

http://www.steves-digicams.com/knowledge-center/understanding-rendering-intents.html.

# MONITOR PROFILES

Without an accurate monitor profile you will be dooming yourself to constant irritation, because what you see on your screen will not resemble the final print you are making. The computer doesn't know how the data appears on the screen unless you use an accurate monitor profile. This tells the computer how the colors are actually appearing and will make changes if anything is off.

Profiles for your monitor may have come bundled on your computer. Some manufacturers supply them while others don’t. In any case, they need to be set up in your system settings. Do a Google search for instructions if you are unsure of how to set up your monitor profile.

There are a variety of tools, some supplied by the computer manufacturer, some with the operating system, and some supplied with Adobe products that can be used to generate a monitor profile visually. These tools will run you through a series of on-screen choices and tests. While these tools may be better than a completely un-profiled monitor, they are far from completely accurate. To get an accurate monitor profile you'll need to either buy, rent or borrow a dedicated monitor profile device and its associated software. We use X-Rite products.

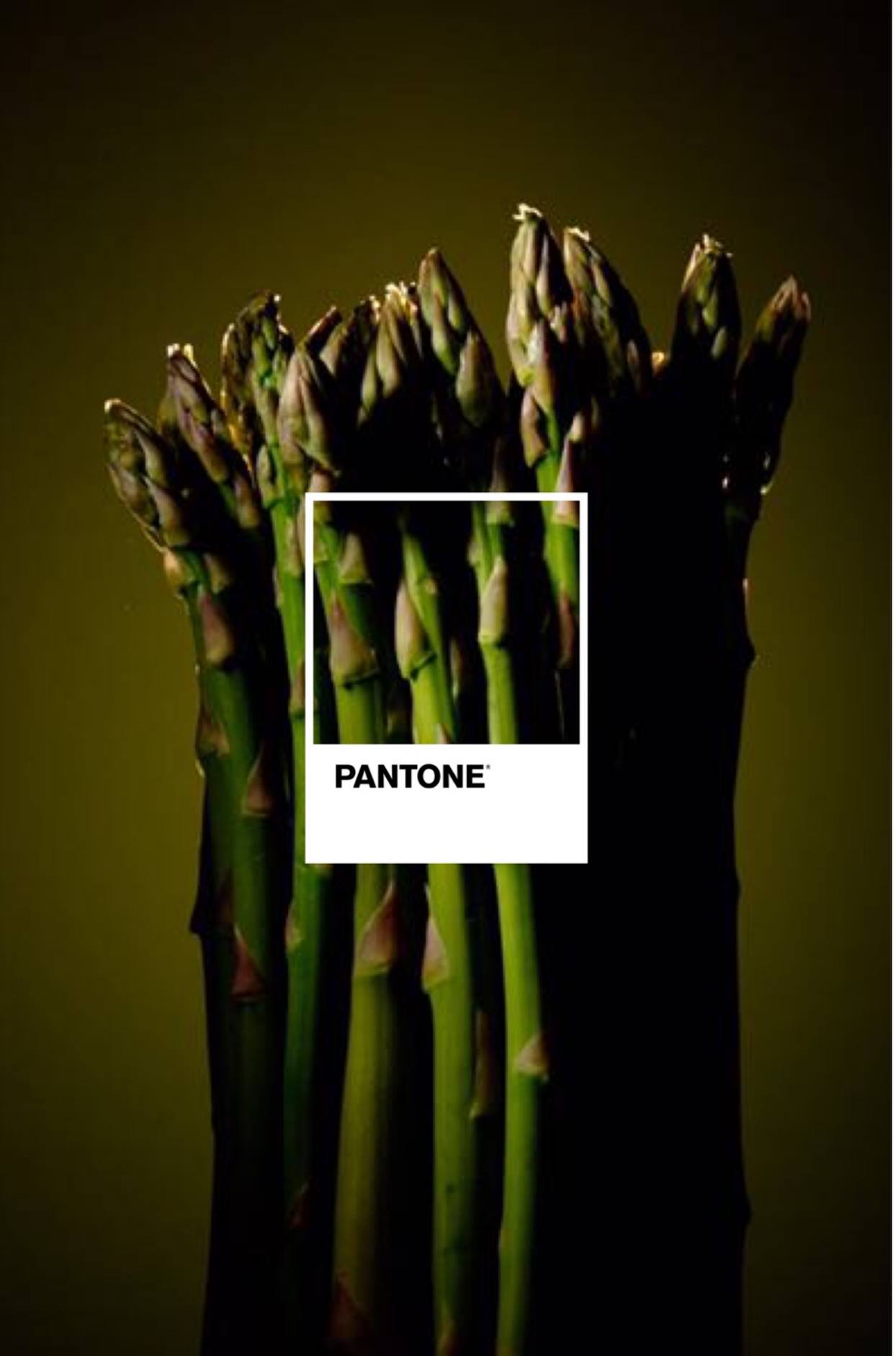
Trivia: Adobe RGB was developed to closely parallel CMYK process printing colors used in magazines.
5.1.6

The purpose of the entire color management process is to coordinate the management of the color profiles from camera to computer to monitor to printer to paper as seamlessly as possible to ensure consistent, accurate results.

**TIP**: Join a local camera club since many of them have monitor profile devices for common use by members. If you are a member of a local camera club or creative collective and the group doesn't have a good monitor calibration tool your group probably should.

**FYI**: There are plenty of reasonably priced, acceptable monitor calibration systems out there. We are partial to X-Rite, due to their wide support by third parties, our experience with their reliability, and ease of use. If you have or may invest in higher end monitor equipment this compatibility with X-Rite calibration hardware can be critically important in taking advantage of the best a high end monitor can deliver. For instance, using calibration equipment with the monitor manufacturer's software drivers and calibration process typically programs monitor hardware color LUTs (look up tables). Obviously wide third party support of calibration hardware is important in that case. We've had many issues with calibration tools that don't have wide support.

**TIP**: LED monitors hold their specifications far longer than older CRT monitors. Still, it is a good idea to periodically profile your monitor as a check to make sure nothing changed. Theoretically everything should just work. In reality software updates, upgrades to hardware, OS version updates, and all of the other aspects of a constantly changing tech environment do break things in non-obvious ways.




# PRINTER-PAPER PROFILES

Each printer-paper combination is distinct. You cannot reliably use one combination profile for different papers and printers. This makes perfect sense when you realize that every paper has proprietary coatings, its own texture and its own ink absorbency characteristics.

There are two ways to get these profiles, and the situation is better and easier for printer-paper than for monitor profiles. We have great success using ICC paper profiles obtained from the paper manufacturer. For most of the major paper manufacturers, such as Moab, you'll find an accurate printer profile supplied on their web sites. Of course we are speaking of a photographic printer, and not an office multi-function printer which simply cannot make decent art prints. This Moab video walks you through the process of installing and using the correct printer/paper profiles.

Another option for printer-paper profiles is to make them yourself using a spectrophotometer solution. Moderately priced calibration solutions, like the X-Rite i1Studio that we use, have the ability to do double duty by producing monitor profiles as well as creating custom printer-paper profiles. X-Rite i1Studio also allows for

Most color management discussions are about technical matching from image capture to printed page in commercial applications rather than fine art printing
5.1.7

making camera profiles, scanner profiles, and even profiling iOS mobile devices.

Creating your own ICC paper profiles is not an entry requirement for beginning print-makers. If there comes a time where you need to use a paper or material where there is no pre-made profile for the printer you have, as your print head ages, or if you are not getting good results, a custom profile may be the answer.

For truly advanced printmakers, there are more advanced paper/printer calibration systems available using more sophisticated software systems. These higher end solutions obviously come with a higher price tag. However, if you find that you need a more sophisticated paper/printer calibration system, these solutions are an acceptable cost of doing business. We find that for 95% of printmakers, a calibration solution such as X-Rite's i1Studio will likely be all they will need. If you are interested in Les' take on printer-paper profiles, see this blog he wrote on the topic.

As for how and where these profiles will be used, we will cover that in the section describing the Lightroom Print Module.

# COMMON PRINTING ISSUES

It's important as a photographer, and especially as one making prints, to have a reasonable understanding of color management, color spaces and what that might mean to you in any given set of circumstances. After the crash-course we've just run through, we're sorry to have to break the news that *absolute color accuracy* is usually not the first thing on the list of challenges people face with making prints. So what are the common issues?

## Prints Are Too Dark

Dark prints are the biggest challenge most people have. Part of this is the nature of reflected light image characteristics as opposed to transmitted light image characteristics. At best, under fantastic viewing conditions, prints *might* have a 1:100 contrast ratio in terms of blackest black to whitest white. Compare that to transmitted (monitor) light images where it's common to have a 1:1,000 contrast ratio. Judging shadows and mid-tones and how they will render on paper is partly based on experience and you'll get a better feel the more prints you make.

The other part of the dark prints issue is that most people run the monitor they use to evaluate images **way too bright**. If you have a newer desktop display, or even a higher-end laptop, the displays are incredibly bright. Most people run monitors at full bright-

Bright vivid reds, pinks, and purples easily displayed on sRGB monitors are impossible to match with paper and ink.
5.1.8

ness indoors and even in the dark. This is usually a recipe for prints that are consistently far too dark. Try turning your monitor brightness down to give a more representative impression of how mid-tones and shadow values will look on paper.

### Prints Are Too Warm/Too Cool

Prints that turn out too warm or too cool sounds like a color accuracy and color management issue. It is, but not in terms of absolute color accuracy or gamut or precision in matching colors that were actually in the scene to the color on paper. Warm prints, for example, are far more a case of them looking too orange/yellow, which can seriously make skin look horrible or greens in landscapes look bad.

In the opposite case, prints may look too blue, which can ruin just about anything if the scene is not supposed to be blue. The 'too cool' case is usually less common, assuming one has made adjustments to color temperature based on what one sees on their monitor.

By far most monitors run too blue, especially laptop monitors. Typically this will cause an over correction towards orange/yellow when it comes to adjusting white balance by eye. This is one reason why you should calibrate your monitor, but with the understanding that calibration is not a cure-all.

There are also many environmental and situational factors to consider to prevent prints that are too warm or too cool .

Ambient viewing conditions are the biggest issue with miscast colors. Monitors that give an impression of being neutral or *normal* during daylight hours in rooms with a lot of window light can look very cool after dark in most home lighting conditions.

Walls and interior colors can distort your perception of neutral on monitors.

Sometimes your eyes go wonky. I've regularly been working too long and too hard on skin tones where my vision becomes skewed and I end up having to make completely different color adjustments the next day. This is the visual equivalent of temporary tone deafness.

Last, but not least, is the issue of your personal sensitivity to color and especially overall color temperature variations. This varies widely, but always improves with experience.

What can be done about these factors? Beyond making sure your monitor is not overly cool or overly warm, not a whole lot. Some people benefit from making sure the room they are working in is not overly colorful and is fairly neutral. This helps (see **Some Tips** below), but not a lot can be done about the varied lighting temperatures most photographers have where they happen to work. Sure you can invest in officially correct temperature balanced lighting for your workspace that never varies. In fact, there are lights like this but it's probably not the first thing you want to invest in. The answer usually comes from experience. The more you work at evaluating color on reasonable, well-known equipment the more "right" your decisions will be.

# PRACTICAL CONSIDERATIONS

We hope this walk-thru of color management has given you the tools to make decisions about your particular circumstances as you move forward with your fine art printing. We'll end this section with some questions, recommendations, and summarization of things to consider regarding color management and what it means to your prints.

Absolute perfect color **accuracy** from capture to paper is rarely the reason most people are not satisfied with their own prints. It's rare that absolute accuracy will improve the situation in any meaningful way. In fact, prints you like are usually not even close to complete technical accuracy in terms of nailing the color as was in the scene and then making sure those colors come out on paper. This doesn't mean color management isn't important. It's very important in terms of consistency of output and maximizing the paper/printer capabilities at one's disposal. It's just that loving a fine art print is usually not a matter of absolute true-to-life color accuracy.

Consider the following:

How good of a monitor do you need?

Fine art printing is rarely about matching color captured in the scene to print output.
5.1.9

Obviously you want one that doesn't look wildly different with the slightest change in viewing angle. But you probably do not want something super specialized costing thousands of dollars, considering that those still won't show exactly what paper/printers can do in terms of color accuracy.

How good are you personally at differentiating color?

Most people aren't good at differentiating color when they start out, but become better with experience and consistency. Like your mother told you: Practice!

Do you have external requirements?

Many other external factors beyond monitor gamut may trump ultimate monitor quality (quality being defined as the widest gamut that can be had). Your very own print preferences are far more important.

## SOME FINAL TIPS FOR COLOR MANAGEMENT

**Buy the Best Consumer Monitor.** We've found the best solution for our needs is to ride the upper end of consumer technology, rather than invest in specialized monitors. Sure, it's great when a new model of iMac or MacBook Pro comes out with wider gamut screens. We'll take it, but it doesn't completely revolutionize our color judgement on prints we make. On the other hand really lousy monitors are useless, ones that look completely different if you move your head a little up, down, or to the side. Monitors that are crazy cool (many laptops) due to construction quality, wildly bad calibration, or even system settings that are user driven should be avoided as well.

Monitor technology in terms of gamut (the ability to show more colors) continues to improve. The sRGB color space is still a reasonable compromise to make when using almost any consumer monitor that's not a specialty product costing far more (and possibly requiring additional graphics hardware for your computer). Even high-end specialty monitors are usually designed to display a gamut similar to the Adobe RGB space. Decisions regarding investments in specialized monitor technology must solely be driven by your specific needs, rather than believing that somehow that investment will translate into better and more accurate prints.

**Profile Your Monitor**. As we said above, if you are using a modern-day LED monitor, this only needs to be done every six months or so.

**Put Your Desktop on a Diet**. We all seem to like colorful screen desktops, but those distracting colors can be ruinous for fine art printing. Colorful surroundings influence our perceptions of the colors we are working with. Even subtle influences can make a world of difference when it comes to a fine art print. We recommend that you turn off all distracting color on your desktop. Instead of that screaming color image of your kids at DisneyWorld as your screensaver, learn to love a nice, sedate neutral gray that will not compete with and distort your perception of color.

**Proof against white**. When judging color and density of an image periodically proof it against a white background (as is done with soft-proofing in Lightroom) instead of the dark gray and blacks that is the default Lightroom user interface.

**Practice a lot; don't pay a lot.**As with most of life, experience goes a long way. So does the 80/20 rule. You can pay relatively little to get

80-90% of the way to wonderful prints. But to get that extra 10-20% you will pay a fortune with no guarantees of 'better' prints.

**Avoid Direct Sunlight.** Use window shades or other methods to reduce sunlight on your monitor.

**Wear Neutral Clothes.** Loud clothing can alter your perception of color.

**Measure Ambient Light?** Many monitor calibration devices provide an option that will assess ambient light conditions and make real-time adjustments to your monitor to compensate. We do not use this feature as we find it does more harm than good in our ability to judge print output. We prefer a consistent monitor output. We cannot speak for everyone's color perception so you will need to evaluate this feature and make your own decision as to its merits.

**Lighting Your Room**. There are some color management evangelists out there that preach fire and brimstone when it comes to room lighting. They advocate this lightbulb or some other. Before you go overboard, however, we'd like to dispel one myth. What is most important is not what lightbulbs you use as much as it is consistency. You can produce excellent prints under any light, so long as you are practiced and experienced in using them. In other words, don't change your room lighting by buying the most expensive, color-balanced bulbs or ones that are on sale. Use one brand and strength of bulb and stick with that.

**Personal Workspace**. Next to room lighting, room walls, desk, and even clothes are all considerations. It is best to have the walls in which you will post-process and soft-proof are a neutral color.

What you have on your desktop can also make a difference. Try to keep that space neutral, too. Keep distractions to a minimum and keep loud colored books, coffee mugs and other objects far away from your monitor.

In our studio, our walls are painted in a neutral gray to minimize reflections and to not compete with our monitor work.

**Follow Calibration Recommendations.** It's a good idea to use the settings recommended by your monitor calibration tool. If you have a high-end monitor with special hardware features (10 bit hardware color LUTs, etc) this is especially true. In many cases specialized monitor hardware uses it's own software for calibration in combination with good calibration hardware (such as the X-Rite i1 Display Pro) and set many things for you, such as monitor brightness.

**Develop Good Work Habits.** Finally, and most importantly, your work habits are the most critical determinant of fine art printing success. You will get infinitely better results if you follow a set routine, time after time, print after print.

**Avoid eye strain; take breaks.** Eye strain can cause serious errors in color, light and tonality perception, especially at night. Fifteen minutes away from the monitor allows your eyes to relax. While away from the monitor, look at distant objects to exercise those muscles.

With this walk-thru of color management and some practical considerations in mind the next question may be "now what?" What happens when there are large mismatches and how do you know what might be causing what problem? In the following sections we'll introduce the very powerful but largely misunderstood soft proofing tool within the Lightroom develop module and walk thru how to use it as

well as demonstrate case studies where this mismatch causes problems with print quality.

**Aside:** You may have noticed quite a few trade marked Pantone references in the preceding illustrations. While many readers may never have a use for Pantone color reference products, for those that might and are not familiar with their widespread use you should definitely refer to Pantone's website. Pantone's products are ***the reference standard*** when coordinating specific colors between all of the various parties involved in design, manufacturing, image production, advertising, and print production.

The prior illustrations were produced with an amazingly fun mobile app from Pantone available for iOS called Pantone studio. The app can be a lot of fun and a source of inspiration even for photographers that are not "color professionals" and can come in handy for those that are.

# LIGHTROOM SOFT PROOFING

# LIGHTROOM SOFT PROOFING

One of the biggest complaints photographers have when making prints goes something like this; “My prints don’t match the way pictures look on the screen”. Here’s a secret; they never will, due to the nature of a reflected light image (paper print) versus that of a transmitted light image (computer monitor). With experience you’ll get better at predicting what your printed output will look like and what print-specific adjustments to make. Most inconsistencies photographers experience with prints not *”matching”* what they see on a computer screen don’t have much to do with intricate technical details and absolute precision when it comes to color profiling and the like. The biggest issues are usually fairly basic things like screen brightness or extremely cool/warm monitors.

With the above in mind let’s walk thru Lightroom’s soft proofing features. Soft proofing in Lightroom is a powerful tool that can help predict what prints might look like on paper, but more importantly can help identify potential problem areas when making prints. Soft proofing and it’s features are often misunderstood, so we’ll go thru all of them and explain what they all mean and how one might go about using them.

# SIMPLE THINGS

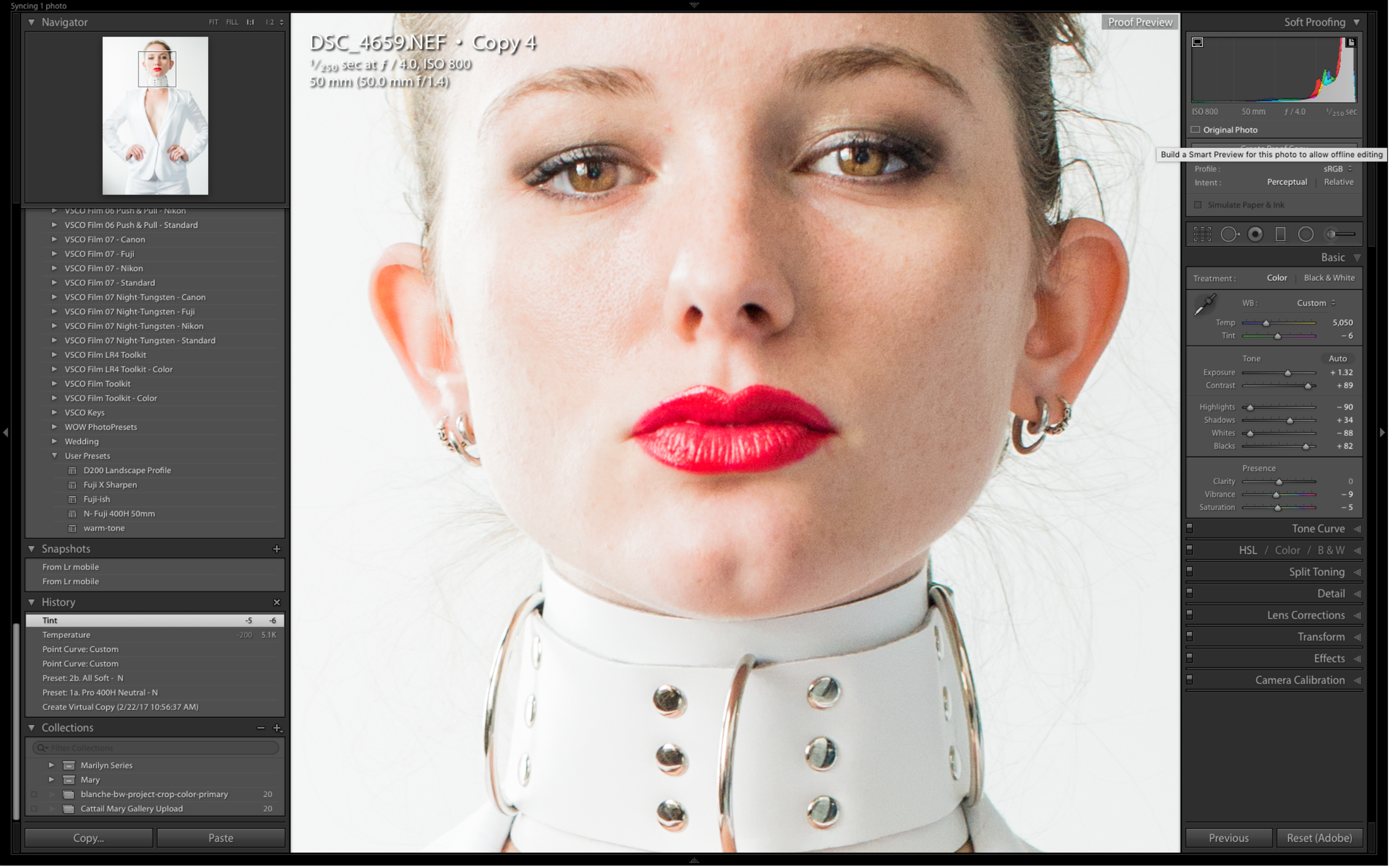
As the term implies, soft proofing is a way to pre-judge a print on screen before committing to actually laying ink on paper (hard proof). Soft proofing saves time, money, paper/ink and lots of frustration.

First off is how to get to the soft proofing tools in Lightroom. Soft proofing is only available while you are in the Develop module, so that's the first order of business. When in the Develop module soft proofing is available under the View menu or by hitting the shortcut key "S" or by checking the soft proofing box at the bottom of your screen.

Activating soft proofing will make a few changes to Lightroom's interface. The biggest thing you'll notice is the white background instead of the dark gray surrounding your image (assuming you've not changed the default image background). This is one of the simple things that soft proofing does and possibly one of the most helpful. Perceived image brightness looking at a photograph against a dark color as opposed to white is night and day. This basic feature alone solves a lot potential printing issues, specifically of prints turning out too dark. We use soft proofing constantly even when taking a look at how images posted on-line will look against the ubiquitous white of the web.

Figure 6.1.1 has none of soft proofing's helpful features activated; ones that alter the appearance of an image. It looks exactly the same as it did without soft proofing turned on because I set soft proofing up this way specifically to make a point. If you activate soft proofing you may see something completely different due to the next two basic features of soft proofing.

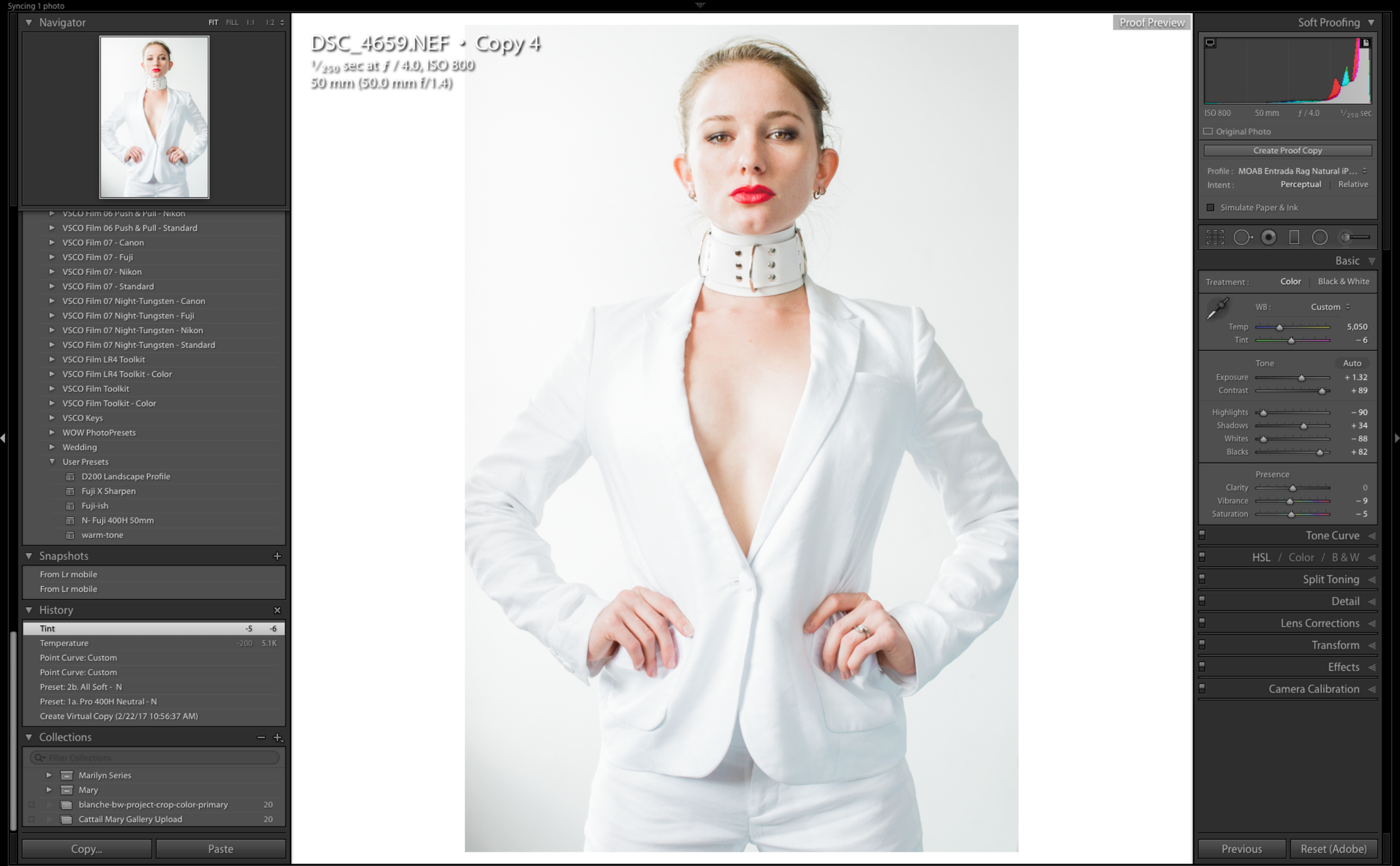
First is the target profile to which you'll be outputting the image. In figure 6.1.1 I have the destination profile (upper right) set to the sRGB color space, which closely matches the monitor I was using. I could have set it to the actual monitor profile to technically make no translation at all but for most purposes setting it to sRGB is close enough.


Syncing 1 photo
Navigator
FIT FILL 1:1 1:2
VSCO Film 06 Push & Pull - Nikon
VSCO Film 06 Push & Pull - Standard
VSCO Film 07 - Canon
VSCO Film 07 - Fuji
VSCO Film 07 - Nikon
VSCO Film 07 - Standard
VSCO Film 07 Night-Tungsten - Canon
VSCO Film 07 Night-Tungsten - Fuji
VSCO Film 07 Night-Tungsten - Nikon
VSCO Film 07 Night-Tungsten - Standard
VSCO Film LR4 Toolkit
VSCO Film LR4 Toolkit - Color
VSCO Film Toolkit
VSCO Film Toolkit - Color
VSCO Keys
WOW PhotoPresets
Wedding
User Presets
D200 Landscape Profile
Fuji X Sharpen
Fuji-ish
N- Fuji 400H 50mm
warm-tone
Snapshots
From Lr mobile
From Lr mobile
History
Tint -5 -6
Temperature -200 5.1K
Point Curve: Custom
Point Curve: Custom
Preset: 2b. All Soft - N
Preset: 1a. Pro 400H Neutral - N
Create Virtual Copy (2/22/17 10:56:37 AM)
Collections
Filter Collections
Marilyn Series
Mary
blanche-bw-project-crop-color-primary 20
Cattail Mary Gallery Upload 20
Copy...
Paste
DSC_4659.NEF • Copy 4
1/250 sec at f / 4.0, ISO 800
50 mm (50.0 mm f/1.4)
Proof Preview
Soft Proofing
ISO 800 50 mm f / 4.0 1/250 sec
Original Photo
Build a Smart Preview for this photo to allow offline editing
Profile : sRGB
Intent : Perceptual Relative
Simulate Paper & Ink
Basic
Treatment : Color Black & White
WB : Custom
Temp 5,050
Tint – 6
Tone Auto
Exposure + 1.32
Contrast + 89
Highlights – 90
Shadows + 34
Whites – 88
Blacks + 82
Presence
Clarity 0
Vibrance – 9
Saturation – 5
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Previous
Reset (Adobe)

6.1.1

Take a look at the upper right-hand panel where the histogram is located. You'll find all the basic soft proofing options there. In figure 6.2.2 I've set the destination profile to a matte paper profile for the printer I'll be using. It might be hard to see the difference between the two screen shots in this book but if you flip back and forth with the "S" key on your computer you'll clearly see a significant difference for many color images with various paper types.

The next simple thing that soft proofing does is attempt to simulate what a reflected light print on paper might look like in terms of contrast, DMAX (maximum black), and other paper related things. The check box *"simulate paper & ink"* right below the profile section turns that feature on and off. Figure 6.1.3 shows what that looks like. It's a rough estimate of what a print on paper might look like but obviously it's still being viewed on a monitor. Matte paper profiles will usually show the biggest change using this feature. Take a few moments to explore this on Lightroom on your own computer.


Syncing 1 photo
Navigator
FIT
FILL
1:1
1:2
VSCO Film 06 Push & Pull - Nikon
VSCO Film 06 Push & Pull - Standard
VSCO Film 07 - Canon
VSCO Film 07 - Fuji
VSCO Film 07 - Nikon
VSCO Film 07 - Standard
VSCO Film 07 Night-Tungsten - Canon
VSCO Film 07 Night-Tungsten - Fuji
VSCO Film 07 Night-Tungsten - Nikon
VSCO Film 07 Night-Tungsten - Standard
VSCO Film LR4 Toolkit
VSCO Film LR4 Toolkit - Color
VSCO Film Toolkit
VSCO Film Toolkit - Color
VSCO Keys
WOW PhotoPresets
Wedding
User Presets
D200 Landscape Profile
Fuji X Sharpen
Fuji-ish
N- Fuji 400H 50mm
warm-tone
Snapshots
From Lr mobile
From Lr mobile
History
Tint -5 -6
Temperature -200 5.1K
Point Curve: Custom
Point Curve: Custom
Preset: 2b. All Soft - N
Preset: 1a. Pro 400H Neutral - N
Create Virtual Copy (2/22/17 10:56:37 AM)
Collections
Filter Collections
Marilyn Series
Mary
blanche-bw-project-crop-color-primary 20
Cattail Mary Gallery Upload 20
Copy...
Paste
DSC_4659.NEF • Copy 4
1/250 sec at ƒ / 4.0, ISO 800
50 mm (50.0 mm f/1.4)
Proof Preview
Soft Proofing
ISO 800
50 mm
ƒ / 4.0
1/250 sec
Original Photo
Create Proof Copy
Profile : MOAB Entrada Rag Natural iP...
Intent : Perceptual | Relative
Simulate Paper & Ink
Basic
Treatment : Color | Black & White
WB : Custom
Temp 5,050
Tint – 6
Tone Auto
Exposure + 1.32
Contrast + 89
Highlights – 90
Shadows + 34
Whites – 88
Blacks + 82
Presence
Clarity 0
Vibrance – 9
Saturation – 5
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Previous
Reset (Adobe)

6.1.2

Syncing 1 photo
Navigator
FIT
FILL
1:1
1:2
VSCO Film 06 Push & Pull - Nikon
VSCO Film 06 Push & Pull - Standard
VSCO Film 07 - Canon
VSCO Film 07 - Fuji
VSCO Film 07 - Nikon
VSCO Film 07 - Standard
VSCO Film 07 Night-Tungsten - Canon
VSCO Film 07 Night-Tungsten - Fuji
VSCO Film 07 Night-Tungsten - Nikon
VSCO Film 07 Night-Tungsten - Standard
VSCO Film LR4 Toolkit
VSCO Film LR4 Toolkit - Color
VSCO Film Toolkit
VSCO Film Toolkit - Color
VSCO Keys
WOW PhotoPresets
Wedding
User Presets
D200 Landscape Profile
Fuji X Sharpen
Fuji-ish
N- Fuji 400H 50mm
warm-tone
Snapshots
From Lr mobile
From Lr mobile
History
Tint -5 -6
Temperature -200 5.1K
Point Curve: Custom
Point Curve: Custom
Preset: 2b. All Soft - N
Preset: 1a. Pro 400H Neutral - N
Create Virtual Copy (2/22/17 10:56:37 AM)
Collections
Filter Collections
Marilyn Series
Mary
blanche-bw-project-crop-color-primary 20
Cattail Mary Gallery Upload 20
Copy...
Paste
DSC_4659.NEF • Copy 4
1/250 sec at ƒ / 4.0, ISO 800
50 mm (50.0 mm f/1.4)
Proof Preview
Soft Proofing
ISO 800
50 mm
ƒ / 4.0
1/250 sec
Original Photo
Create Proof Copy
Profile : MOAB Entrada Rag Natural iP...
Intent : Perceptual | Relative
Simulate Paper & Ink
Basic
Treatment : Color | Black & White
WB : Custom
Temp 5,050
Tint – 6
Tone Auto
Exposure + 1.32
Contrast + 89
Highlights – 90
Shadows + 34
Whites – 88
Blacks + 82
Presence
Clarity 0
Vibrance – 9
Saturation – 5
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Previous
Reset (Adobe)

6.1.3

# THE COMPLICATED THINGS

Recall the graphs included in the *Color Management* section. When viewing an image on a screen you are not necessarily seeing all of the colors as they exist in the image file from your camera. Instead you are seeing them translated to the monitor's color profile. To clear up what exactly the gamut warning features of soft proofing are showing you, I'll select sRGB as the output destination profile in soft-proofing. I chose sRGB as the output because it's close to the monitor I was using and, for that matter, most monitors. Doing this is actually showing you approximately what you were seeing **without soft proofing turned on** because they are about the same in this case.

Let's define what we mean by gamut and gamut warnings. A color gamut is all the colors that a specific color space includes. So, as you would expect, the ProPhoto color space has a far wider gamut than an sRGB color space. Gamut warnings are meant to alert you to what colors a particular color gamut is not able to show you.

In figure 6.2.1 I have *"monitor gamut warning"* turned on. That feature is located and can be activated in two places. It's in the View menu under soft proofing. It's also available in the upper left hand little box of the histogram panel when soft proofing is activated. You can click on it to turn it on or hover over it to temporarily see it, a lot like the shadow warnings when in the Develop module.

If there's a monitor gamut warning it will show a blue overlay. There are no blue overlays here when using the sRGB profile as our output destination profile. Because our monitor is so close to sRGB (practically identical) in this case it will show no warnings by definition. Monitor gamut warnings show you colors that will show up in the output destination that cannot be represented on your monitor.

The next screenshot (figure 6.2.2) now shows *monitor gamut warning* turned off and *destination gamut warning* turned on. The destination gamut warning feature is located in the View menu under soft proofing. It's also located on the upper right side of the histogram panel, opposite the monitor gamut warning. As you can see there's now a bunch of red overlay in the image on the lips. This shows what colors are in the file that can't be represented in the output selected. In this particular case the destination profile of sRGB closely matches the screen. Therefore the destination gamut warning is showing us color in the file that you can't see on the screen. I used sRGB to clearly demonstrate that the monitor gamut warning is not

Figure 6.2.1

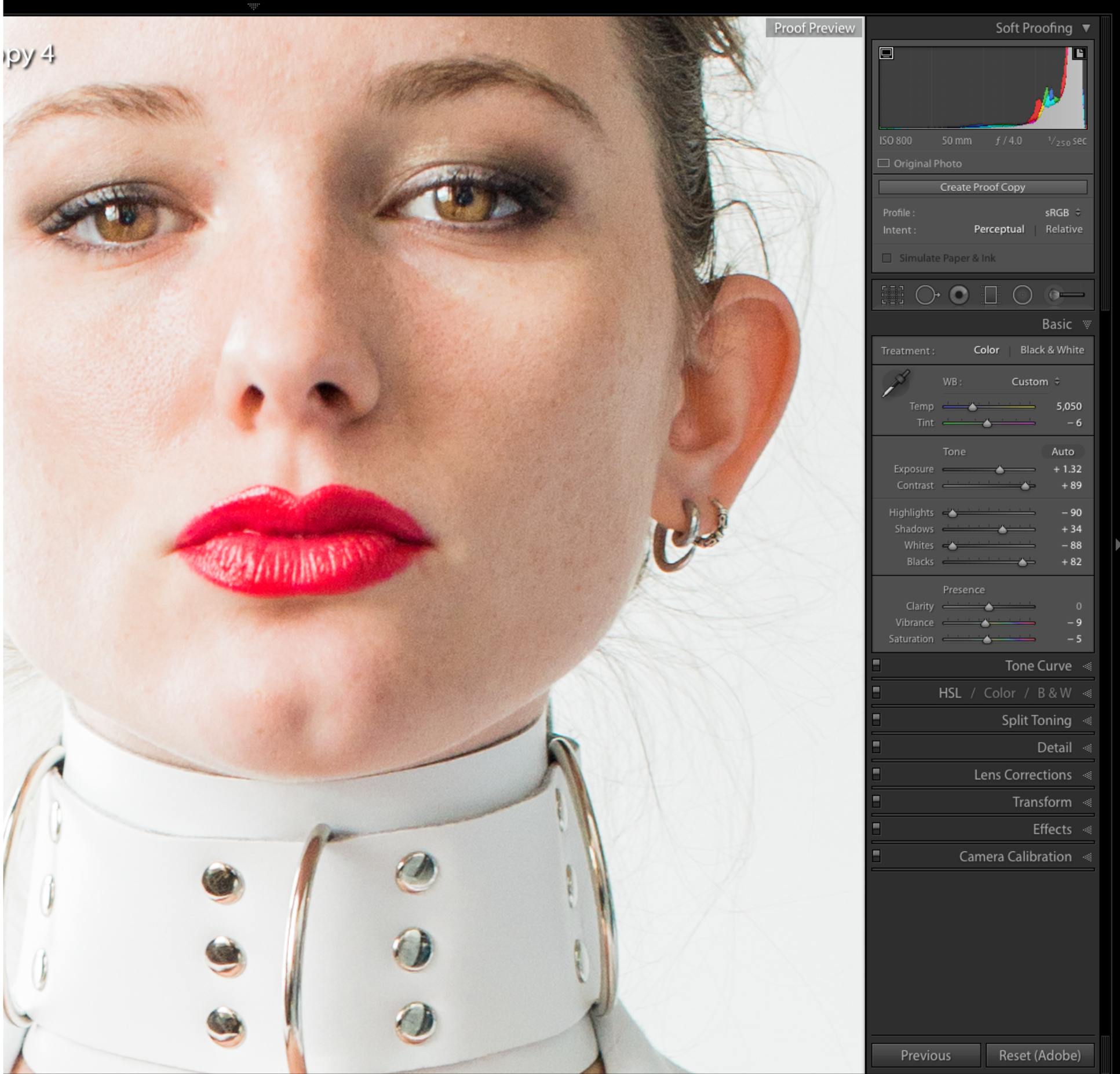
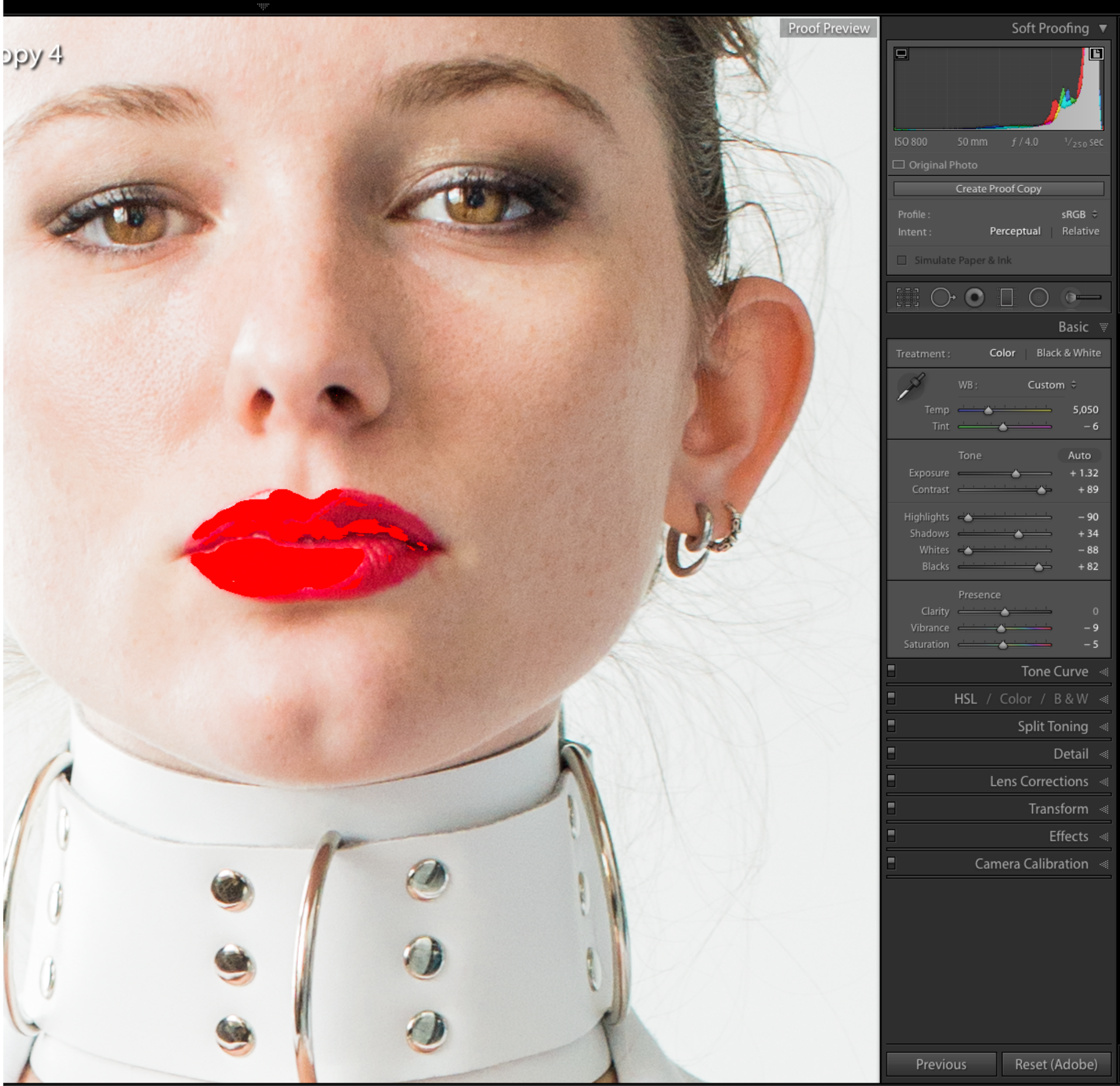

Proof Preview
Soft Proofing
ISO 800
50 mm
f / 4.0
1/250 sec
Original Photo
Create Proof Copy
Profile : sRGB
Intent : Perceptual | Relative
Simulate Paper & Ink
Basic
Treatment : Color | Black & White
WB : Custom
Temp 5,050
Tint – 6
Tone
Auto
Exposure + 1.32
Contrast + 89
Highlights – 90
Shadows + 34
Whites – 88
Blacks + 82
Presence
Clarity 0
Vibrance – 9
Saturation – 5
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Previous
Reset (Adobe)

Figure 6.2.2


opy 4
Proof Preview
Soft Proofing
ISO 800
50 mm
f / 4.0
1/250 sec
Original Photo
Create Proof Copy
Profile :
sRGB
Intent :
Perceptual
Relative
Simulate Paper & Ink
Basic
Treatment :
Color
Black & White
WB :
Custom
Temp
5,050
Tint
– 6
Tone
Auto
Exposure
+ 1.32
Contrast
+ 89
Highlights
– 90
Shadows
+ 34
Whites
– 88
Blacks
+ 82
Presence
Clarity
0
Vibrance
– 9
Saturation
– 5
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Previous
Reset (Adobe)

telling you about what your monitor can reproduce versus what colors are in the image file. Monitor gamut warning is showing you what colors will be in the output that you can't see on your monitor. By definition if you set output to a profile that closely matches your monitor (as we have just done by using sRGB as the output) there will **never be a monitor gamut warning**. It's a fine point, but extremely important to understand in order to use soft proofing effectively and understand  what gamut warnings are telling you..

In figure 6.2.3 I've selected a matte paper as the output destination profile, this time with both monitor and destination gamut warnings turned on. There are areas of color on the lips in the image file that cannot be reproduced on the paper and printer combination we're using as seen in the red overlays. The good news is that we don't have any monitor gamut warnings in the area of color on the lips which means we are seeing the actual colors in the soft proof that will be reproduced in the print. In many ways the monitor gamut warning is probably more important for pictorial purposes than the destination gamut warning because it's showing you things that will show up on paper that are not accurately represented on the screen when soft-proofing.

On the other hand the output gamut warning might be important if you commercially had to reproduce a particular color accurately that is in the file. You can look at the red destination gamut warning as a way to highlight what colors have changed from what was captured with your camera. As long as there are no blue areas, colors should show up as you see them in soft proofing.

Figures 6.2.4 and 6.2.5 give you a visual of what we just discussed about the destination gamut warning. The first one (6.2.4) is the soft proof with all warnings turned off. The second (6.2.5) is soft proofing turned off.

Pay close attention to the color of the lips and compare that to the next screenshot showing soft proofing turned off. The difference in saturation and even hue should be apparent. I chose the demonstration image here because it represents a real world "color problem" that manifests itself in a print that I'm not satisfied with. This is entirely due to the paper's inability to represent the actual colors I'm seeing on my screen and that exist in the image file, specifically the intense pink colors in the model's lipstick. In many cases theoretical color problems that you may be able to identify technically don't manifest themselves in the print as actual problems. In this case that intense pink lipstick is the focal point against a sea of unsaturated high-key neutral colors. This reduces color contrast of the lipstick against the rest of the picture, creating an actual color problem.

One last note about overlapping gamut warnings (the case where you have both monitor gamut warnings and output gamut warnings in the same region showing as purple/magenta). In many cases that's a predictor of potential problem areas in a print that you'll not be able to accurately predict by looking at the soft proof. In this particular print it's not an issue at all and you'd be hard pressed to see any difference in the print than your perception of it on the screen. In other images where there's a broad area covered in those monitor gamut overlap areas it's a gigantic problem that sticks out like a sore thumb. But, at the very least, you are alerted to the fact that there will probably be an issue with the print. In that case, we recommend you make a small hard proof print and examine it carefully. In many cases image adjustments may be required to produce a print to your satisfaction.

6.2.3

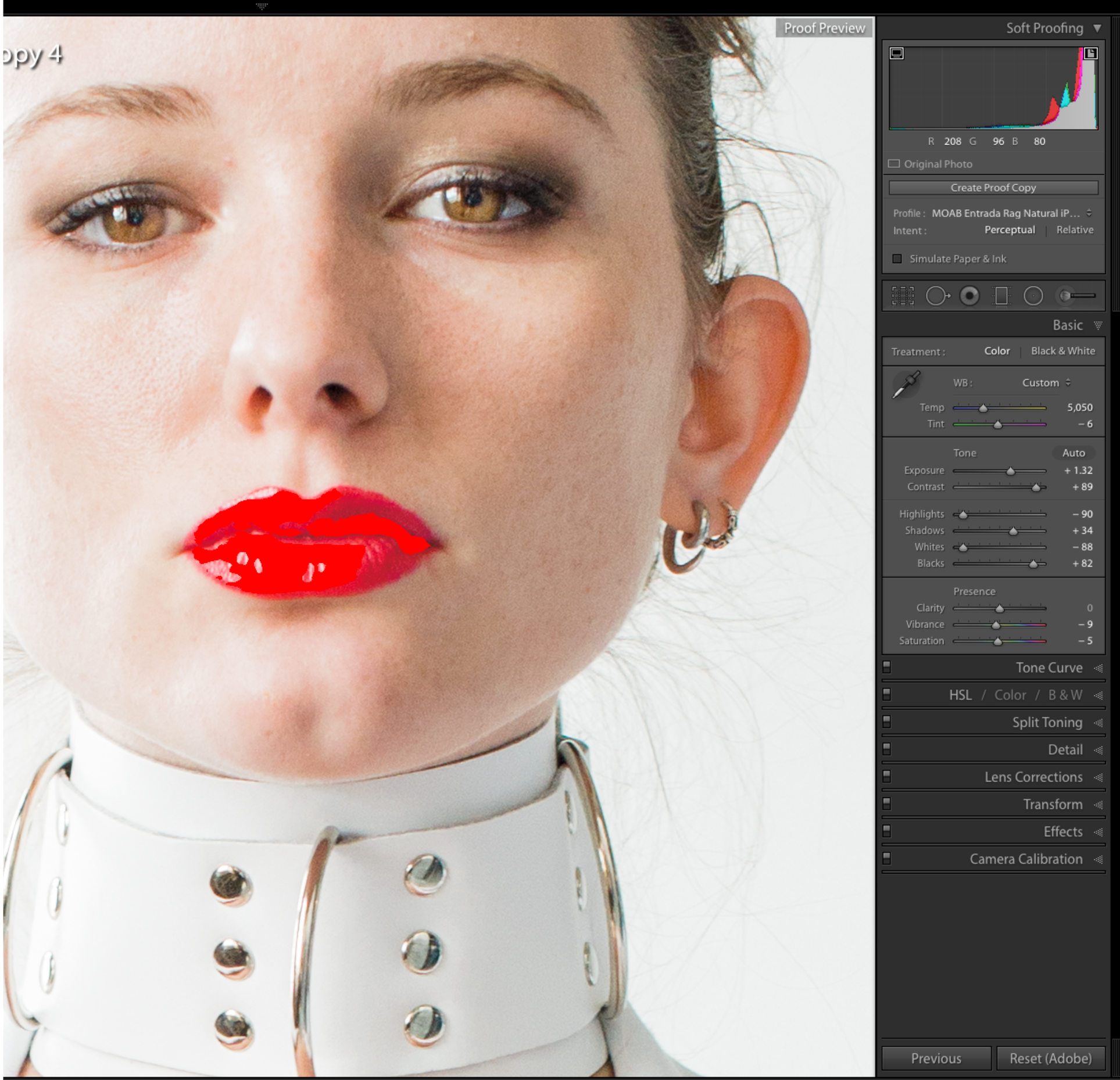
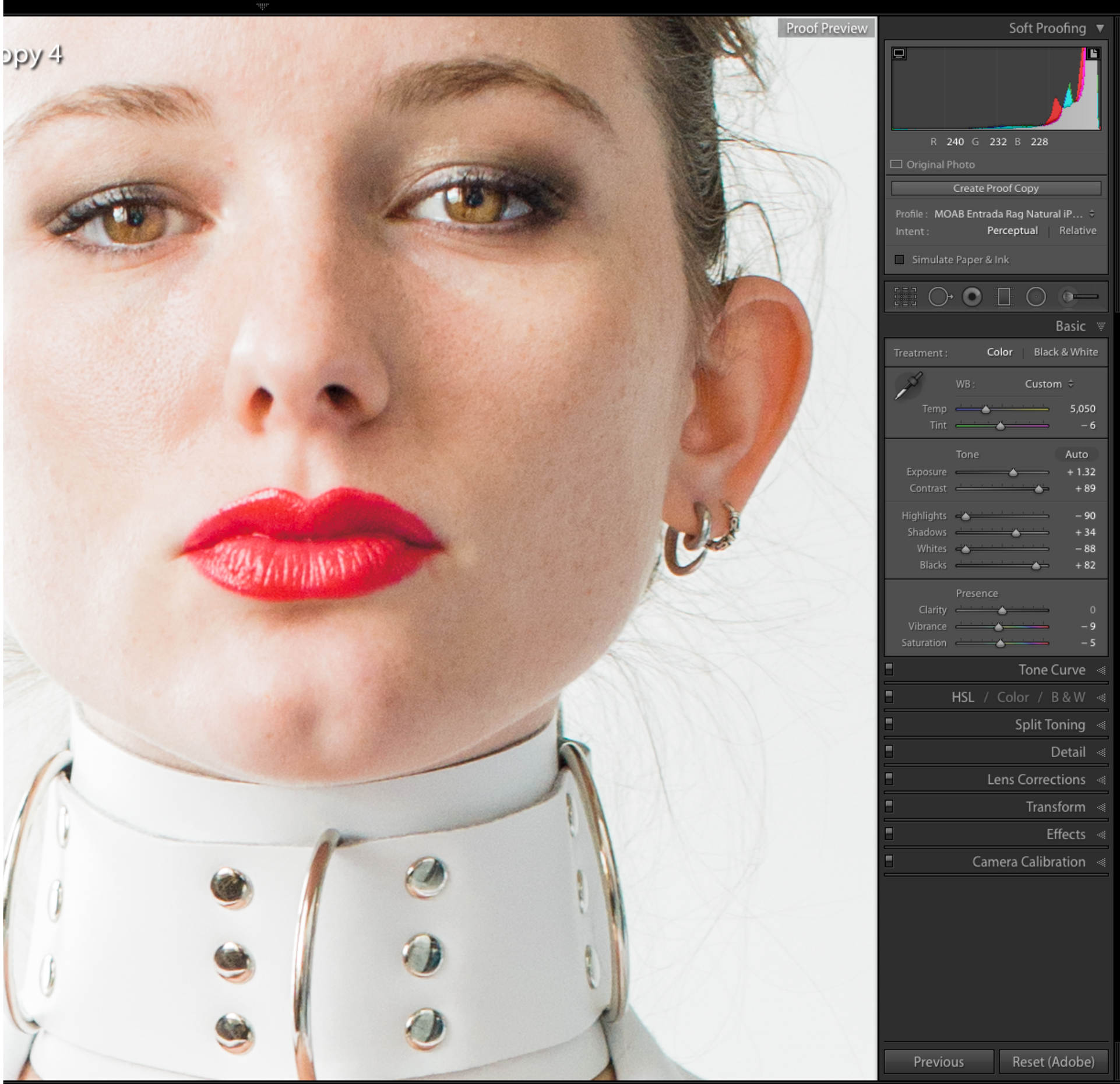

opy 4
Proof Preview
Soft Proofing
R 208 G 96 B 80
Original Photo
Create Proof Copy
Profile : MOAB Entrada Rag Natural iP…
Intent : Perceptual | Relative
Simulate Paper & Ink
Basic
Treatment : Color | Black & White
WB : Custom
Temp 5,050
Tint – 6
Tone Auto
Exposure + 1.32
Contrast + 89
Highlights – 90
Shadows + 34
Whites – 88
Blacks + 82
Presence
Clarity 0
Vibrance – 9
Saturation – 5
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Previous
Reset (Adobe)

Figure 6.2.4


opy 4
Proof Preview
Soft Proofing
R 240 G 232 B 228
Original Photo
Create Proof Copy
Profile : MOAB Entrada Rag Natural iP…
Intent : Perceptual | Relative
Simulate Paper & Ink
Basic
Treatment : Color | Black & White
WB : Custom
Temp 5,050
Tint – 6
Tone Auto
Exposure + 1.32
Contrast + 89
Highlights – 90
Shadows + 34
Whites – 88
Blacks + 82
Presence
Clarity 0
Vibrance – 9
Saturation – 5
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Previous
Reset (Adobe)

We'll look at what kinds of choices you have to rectify these problems in our case studies. As you will see the solutions don't have much to do with color accuracy.

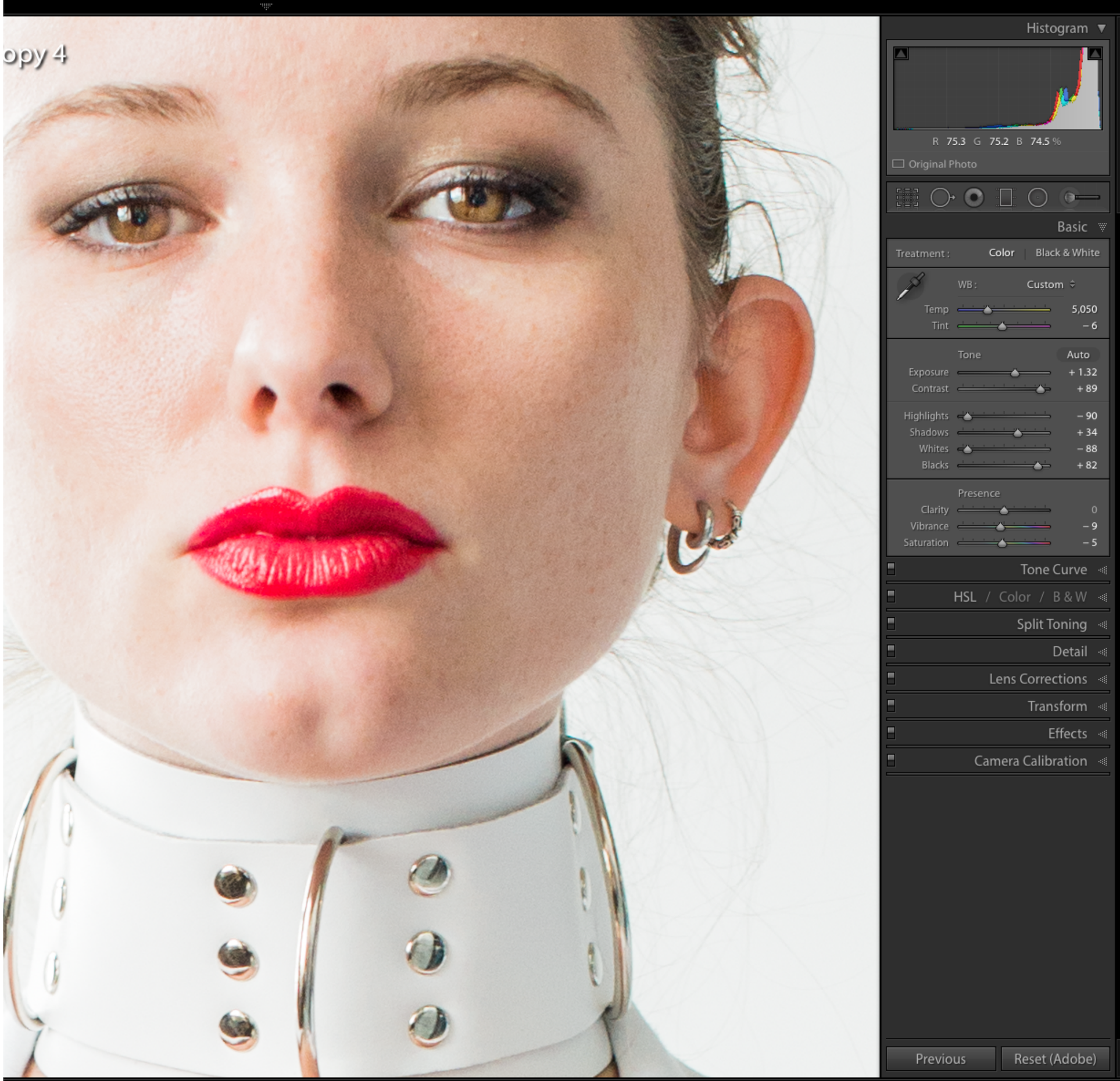
## ASIDE

Within the soft-proofing controls you probably noticed the "Intent" options allowing the choice of perceptual or relative colorimetric. Throughout this walk-thru of soft-proofing I've used the perceptual rendering intent. Our previous discussion of choosing a rendering intent suggested that relative colorimetric was probably a more appropriate choice if accurately carrying a specific color from camera capture all the way thru to final output.

The example used here for a walk thru of soft-proofing shows another reason one **might** want to use relative colorimetric. Specifically the image has bright, saturated pinkish reds -- typically rendered well on screens but difficult to render on most paper/printers. In this case relative colorimetric may give more saturation on printed output than perceptual will. The actual *look* will be very image and paper dependent and I suggest that ultimately a hard proof is the best way to evaluate which rendering is more pleasing for your specific case.

One other consideration of note, for demonstration purposes and for clarity of illustration I chose a matte paper that is not particularly suited to rendering bright saturated colors such as the lipstick. A glossy paper such as Moab Juniper Baryta with relative colorimetric rendering intent does a much better job with this particular picture if my goal is to maximize visual impact of the lipstick.

Figure 6.2.5


opy 4
Histogram
R 75.3 G 75.2 B 74.5 %
Original Photo
Basic
Treatment : Color | Black & White
WB : Custom
Temp 5,050
Tint – 6
Tone Auto
Exposure + 1.32
Contrast + 89
Highlights – 90
Shadows + 34
Whites – 88
Blacks + 82
Presence
Clarity 0
Vibrance – 9
Saturation – 5
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Previous
Reset (Adobe)

7

# THE PRINT MODULE

# THE PRINT MODULE

Now that you are finished post-processing your prized image, you are ready to enter the Lightroom Print Module. Congratulations! It is here that the rubber meets the road or, better yet, where the ink meets the paper.

If you follow the Print Module's sequencing, printing will mostly be easy. If you skip steps or do something wacky, printing can be an exercise in frustration. We've said this before, but it's worth repeating; one of the key factors to successful printing is consistency. So, unlike with the Develop module, we encourage you to follow the Print module in sequence.

We'll walk you through Lightroom's Print module step-by-step. Some of the sections are self-explanatory, but we'll still give you some tips and hints. Others are a bit more complex, so we'll walk you through those. The key to success with the Print module is to start simple and gain skills with practice. Then you can add options that will customize fine art printing to your personal tastes. Most importantly, you will better understand the difference between how an image looks on your monitor (transmitted light) and how it will look in a print (reflected light) and what you need to do in post-processing to achieve your vision.

**NOTE:** Your choice of printer (and subsequently its associated print driver) will result in different options within the Print module, depending on whether you use a Mac or Windows. The variations are almost endless, so rather than go through every possible iteration, we focus here on the important concepts, using an Apple computer. Once you understand those, you can find the choices specific to your printer within your printer driver dialogues.

But, before you begin there are two things you will need to do. You must download the ICC profile for your paper and printer combination. These profiles, provided by the manufacturers for the printer and paper, instructs your printer exactly how to lay down the inks so that you get the maximum benefit from your paper.

For a step-by-step explanation of how to install ICC profiles for your papers, please watch this video tutorial made by Moab papers. While the example given is for a Moab paper, the process is exactly the same for whatever paper company you choose to use.

# LAYOUT STYLE PANEL

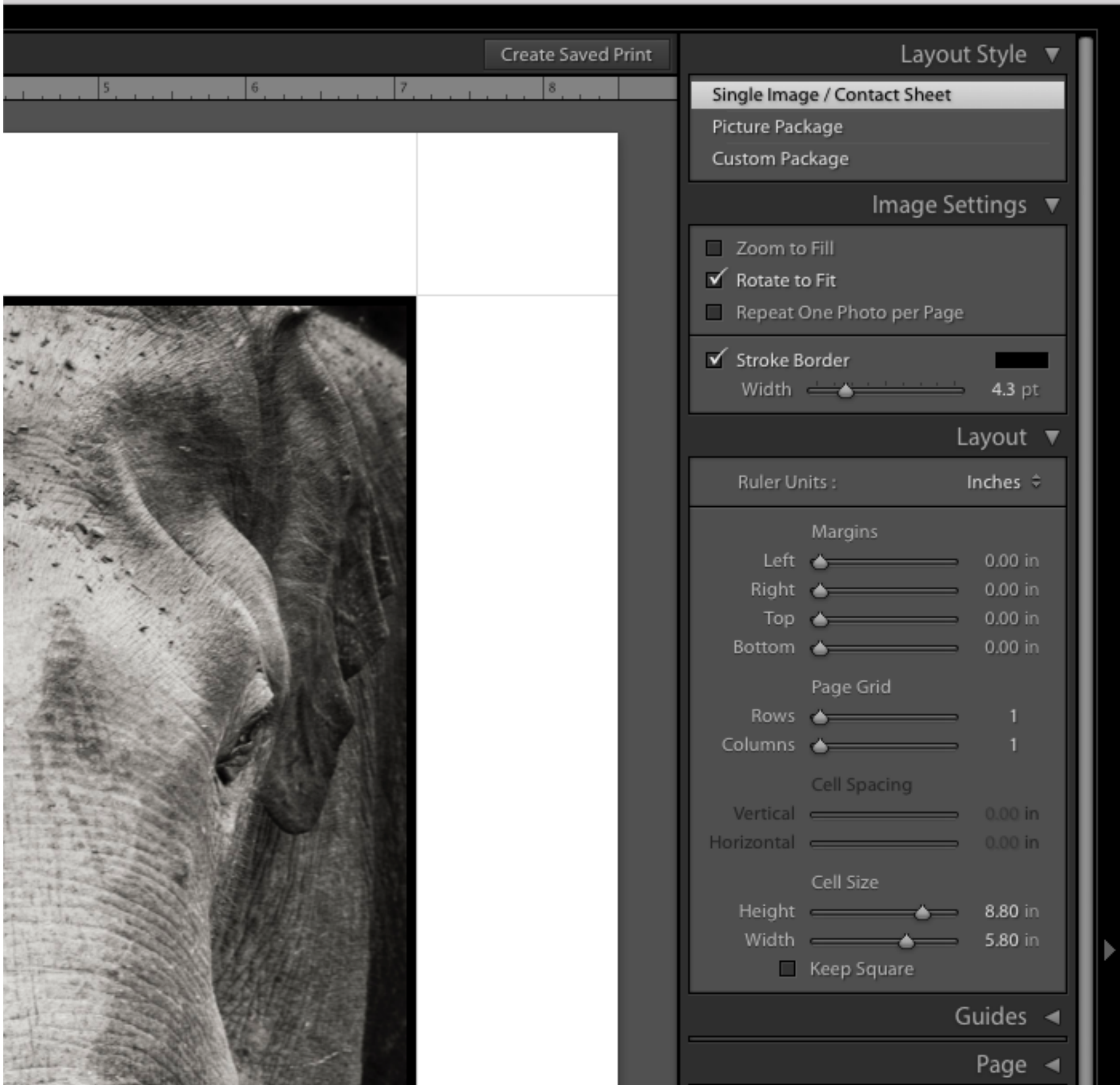
Since this is a beginner and intermediate guide to printing we will assume for now that you will be printing single images, so click on the Single Image option. As you gain experience you can experiment with other layout styles. Just make sure that you have only one image selected in Lightroom.

Picture Package and Custom Package are most often used by professional portrait and wedding or event photographers to create image sets that customers will buy. When you gain enough experience with Lightroom, you may want to learn how to use these options to print family or event prints for friends and relatives.

# IMAGE SETTINGS

Zoom to Fill: automatically crops your image so that it fits and fills up whatever image size you set up in the Layout Panel, below. It crops the image if it is different than the cell size you selected. This is important if you are more concerned about the ultimate paper size rather than the entire image. We rarely prioritize the size of the paper. Instead we prioritize the image itself and figure out a layout to fit.

Figure 7.1.1


Create Saved Print
5
6
7
8
Layout Style
Single Image / Contact Sheet
Picture Package
Custom Package
Image Settings
Zoom to Fill
Rotate to Fit
Repeat One Photo per Page
Stroke Border
Width
4.3 pt
Layout
Ruler Units :
Inches
Margins
Left
0.00 in
Right
0.00 in
Top
0.00 in
Bottom
0.00 in
Page Grid
Rows
1
Columns
1
Cell Spacing
Vertical
0.00 in
Horizontal
0.00 in
Cell Size
Height
8.80 in
Width
5.80 in
Keep Square
Guides
Page

TIP: If you check Zoom to Fill, you can drag the image around to get the precise parts of it in the frame that you want. Just click and drag.

Rotate to Fit: Generally speaking you'll want this box checked. All it does is make sure that the longest side of your image is mated to the longest edge of the paper. That maximizes the image in the allotted space.

Repeat Photo Per Page: Let's say there are four images you wish to print. Using one of the layouts, you can choose to have four pages with each page having all four different images on it. Or, by checking this box, you can have four pages, each page with four copies of a single image on it.

Stroke Border: You can place a border around your image by checking the box. You can also pick virtually any color for the border, as well as define the thickness of the border.

## LAYOUT

Ruler Units: In the United States you would probably want to select inches to define your layout. In virtually every other country you would probably want to choose centimeters or millimeters. This can also be governed by whether the paper you choose to use is offered in inches or metric sizes.

Two other options are offered, Points and Picas. If you need to use these measurements you'll know it.

Margins: This is straightforward. Decide on the margins you want and Lightroom will dynamically set them for you to see on your monitor. Although you can use your slider to set the margins, we recommend that you type the exact number directly into the box on the right hand side.

Page Grid: This allows you to print more than one image on a page. Again, this is dynamically set, so as you change the number it will be reflected on your monitor.

Cell Spacing: If you choose more than one image on the page, you can select the vertical and/or horizontal spacing between each image. If you select only one image on the page, this option will, of course, be grayed out and unavailable.

Cell Size: This option determines the size of the printed image on the page, taking into account the margins you have previously set. You can go back and forth until you get the image looking the way you desire.

## GUIDES

The guides are a series of rulers showing margins, borders and other items that benefit from a set of rulers. They can be helpful or distracting, depending on your workflow preferences. We leave them on to be sure of what is going on as we progress through the print workflow.

## PAGE

The Page module offers several options that you may want to adjust.

### Page Background Color

Unless you have a specific reason for making the background color different than the native color of the paper, leave this blank. However, know that you can change the background color, in other words the color of the margins, to a nearly infinite choice of colors.

If you do want to create a colored background, simply click on the checkbox and then click in the white box on the right. That will open up a box that will give you a choice of backgrounds in shades of

black, white and gray. If you click on the upper right white box again while the pointer is showing (not the dropper), you will get a color wheel and many other options. You can play with these to see what effects you can create.

### Identity Plate

Including an identity plate is beyond the scope of this guide, but there are online sources that explain how to do it. See Adobe's tutorial on this topic: http://blogs.adobe.com/jkost/tag/identity-plate

### Watermarking

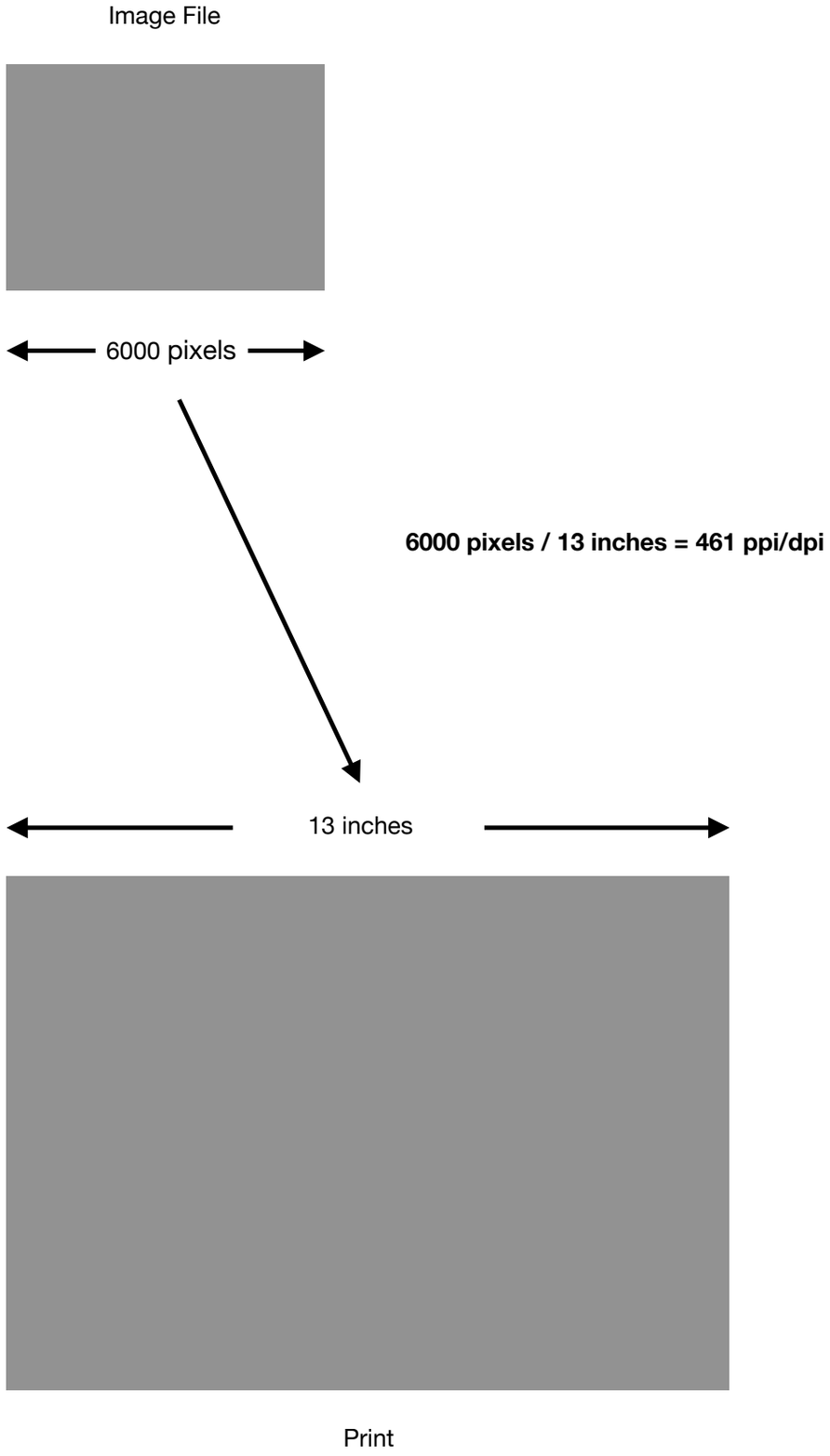
Again, there are videos and articles that explain the process of adding a watermark. See Adobe's tutorials : http://blogs.adobe.com/jkost/2015/07/quick-tip-create-a-custom-watermark-in-lightroom.html

### Page Options

Unless you have a specific reason for doing so, leave this section unchecked if you are creating a fine art print for display. However, there may be situations when you will want to include some of the information options that are offered and they will actually appear in the margins of the print.

### Photo Info and Font Size

You can add information about the image, such as date taken, shutter speed, f-stop and more. You can also specify the size of the font that will be used to print this information. Again, if you are making a fine art print for display you will want to leave out this information.




# PRINT JOB

## Print To

Click on the “Printer” choice.

## Draft Mode Printing

We advise you to leave this unchecked. This creates a generic print, which we have never used in our own workflow.

## Print Resolution

If this box is checked the image will be resized. We tend to send the image to the printer without being resized. You may find on the Internet or in older books about digital printing that you should change the resolution to a multiple or a fraction of the native resolution of the printer. This was initially designed to increase the speed of the printer. With modern printers, drivers and computers we have found this to just be an unnecessary step. We have not found any appreciable difference by manipulating that setting. We simply let the printer interpolate that data. Try it yourself and see if it makes a difference.

There are occasions when we very intentionally ‘up-res’ an image when printing a really large print. In that case we do not use Lightroom due to its inherent limita-

Figure 7.1.3

Page Grid
Rows 1
Columns 1
Cell Spacing
Vertical 0.00 in
Horizontal 0.00 in
Cell Size
Height 8.80 in
Width 5.80 in
Keep Square
Guides
Page
Print Job
Print to : Printer
Draft Mode Printing
Print Resolution 200 ppi
Print Sharpening : Standard
Media Type : Matte
16 Bit Output
Color Management
Profile : HFA_CanPro1000_MK...
Intent : Perceptual | Relative
Print Adjustment
Brightness 0
Contrast 0
When selecting "Managed By Printer", remember to turn on color management in the Print dialog.
Page 1 of 1
Print
Printer...

tions. We send the image into Photoshop, but that is beyond the scope of this book.

**As an aside**, when first starting to make prints, many people don't have a good sense of how big a print they can make that will reproduce well when viewed close and critically. For many decades the number 300 DPI or PPI has been thrown around as an arbitrary standard for what makes a print that is visually similar to an analog processed print from film. One can argue whether that number should be closer to 200, 250, 600 or whatever. It may also vary based on the viewer's experience looking at finely detailed prints, or even an individual's visual acuity. But one thing is certain: it definitely depends on viewing distance.

The camera you use, as well as any cropping done to your image after the fact, will dictate how big a print can be made that meets what would generally be considered a high resolution, finely detailed print. Try this: go into the Library module under the Loupe view and scroll down on the right side. In the Metadata panel, choose the Default metadata view, and towards the bottom you will find "dimensions" and "cropped". This will give you the original image size in pixels, as well as the current number of pixels in your cropped image. Using these numbers it's extremely easy using simple arithmetic, to get a feel for the maximum size of a finely detailed print you will be able to produce.

Take the long side number of pixels and divide that by 300 (or 240, whichever you prefer). The result will give you the number of inches on the long side of a print that can be printed at that resolution.

Here are three examples:

12 MP camera 4256Px will make a 14.2 inch print @ 300 DPI

36 MP camera 7360 Px will make a 24.5" print @ 300 DPI

50 MP camera 8176 Px will make a 27.3" print @ 300 DPI

We leave it to you to do the math for 240 DPI or whatever number you choose as you define "fine print" resolution. But whatever that number is, the math is pretty straightforward.

There is a lot more to print quality than observing minuscule details upon close examination. Part of the assessment of how big a print you can make and how it will look depends so much on the specific picture and its technical characteristics (color, content, noise, edge sharpness, etc). Beyond that, there are considerations that have nothing to do with technical issues. For example, how much does the picture depend on the fine details contained within it to be successful? Fine art photographers constantly push these boundaries with varied degrees of success.

We regularly make gigantic prints (5 feet x 9 feet!) that technically may be less than 100DPI at the sizes we print, but look fantastic at typical viewing distances where they are installed. For example, we installed one image as a wallpaper installation that was 30 feet long by 9.5 feet high! The level of detail at the normal viewing distance was excellent, as you can see in this video.

One other characteristic that needs to be considered is the material being printed on. For instance, if printing on canvas, it may be impossible to achieve fine resolution of detail no matter how much detail is in the original image.

### Print Sharpening

For reasonably sized prints (where the size of the file you have is big enough to make the print you are trying to make), Lightroom print

sharpening does a good job. Typically, if we are up-resing a print or using a non-standard print material, we may do sharpening ourselves in an application like Photoshop, but normally we just use the Lightroom sharpening box in the print module set at Standard. But you should manipulate this to your taste.

You will want to do your primary sharpening while in the Develop module. However, you can add a bit of sharpening in the print stage, too. You will probably want to set sharpening to Standard if you are printing to semi-gloss or glossy papers and to High if you are printing to matte papers.

### 16 Bit Output

It is best to check this box. It may take a little longer to generate a print, but it is worth doing this.

### Color Management

Profile: Click on the arrows on the right side of the line and select the exact paper and printer profile combination you will be using. If you don't see the profile in the list you will have to add it via the "choose" button and make sure the profile you want to use is checked. If the profile you are looking for doesn't show up you may need to restart Lightroom. This is critical. It tells the printer how to lay down the ink, which differs based on whether you are using glossy or matte papers. See Moab's video tutorial on how to download and where to store your profiles

**http://www.moabpaper.com/icc-profiles-downloads**

Intent: Unless you have a print which must be an absolute exact color, for example if you were the Coca-Cola corporation and needed to print the corporate sign, it is best to check "Perceptual".

Print Adjustment: This option gives you an opportunity for the print to add some brightness and contrast to your print. We recommend leaving this unchecked since you have already taken care of this in your post-processing in the Develop module. However, there are situations where you might want to use this option. For example, let's say that you have taken your image this far and are eager to print, but when you look at the soft proof of the image it looks a bit flat. Rather than go back into the Develop module and make your changes, you want to save time. Go ahead and check the Print Adjustment box and tweak the image and go right to printing. We do not recommend this style of work, but it is there if you need it.

# BOTTOM TABS

Now that you have set most of your parameters, you are ready to tackle the four tabs on the bottom of the Print module. These are critical to produce your final art print. Many of the print errors that occur happen because people overlook these tabs. Let's look at them from left to right.

## PAGE SETUP

Sheet sizes, how you can name sheet sizes, and certain limitations are driven by your selection of paper sizes. The selections that are available for you to choose from are dependent on your printer and printer driver. That makes sense when you consider that if you have a printer capable of making a maximum of 17" prints you should not be given a choice of printing 24" or 44" papers.

In addition, for historical and regional reasons certain paper sizes, such as 13 x 19", are named differently by different paper manufacturers. Those differences reflect European versus American naming conventions. For example, 13 x 19 papers may be named A3+ by some manufacturers.

One common quirk that you may experience is the choice between art papers and photo papers. If you are just starting in printing it is a safer bet to choose photo paper. Art papers indicate to the printer that your paper may be thicker than normal and the printer will then force you to feed the paper through the rear slot, so that the paper will not bend as it feeds into the printer. But, the chances that you will be using paper that thick are pretty slim at this stage. Once you gain experience you may want to experiment with heavier stock art papers. Personally, we have not experienced any issues with modern printers. We process thick fine art papers through the normal feed with no problems at all. In some cases, and for some reason, choosing art papers can force you to increase the margins to an unacceptable degree. Go figure!

Always choose the paper/media type suggested by the manufacturer that supplies the ICC printing profile. Top-tier paper manufacturers (such as Moab) always provide the appropriate paper/media type to use with their profiles. In some circumstances you may have paper you want to use along with an ICC profile but no guidance or custom paper/media types provided. In this case choose a paper type that is closest to the actual paper you are using (matte, glossy, semi-gloss, etc.) and carefully examine your results. You may need to experiment to find an acceptable paper type.

When you click on the tab for Page Setup, do not choose the default option called "Any Printer" in the "Format For" dialog. Instead, select the actual printer you are using. The print setting options will change depending on what printer you are using.

In the Paper Size dialog box, enter the paper size you are using from the drop-down list or enter a custom size if you are using roll paper.

**TIP**: This tip may save you some frustration. Some printers will not allow you to print borderless if you enter a custom paper size. Don't ask why, just understand that it's not you.

As printer technology advances, you may find that when you upgrade your printer it may behave differently when you choose a paper size that you used before. Again, that's the way the game is currently played. We complain about it, but we don't get to make the rules. However, we have to say that we've been printing in its various forms (wet darkroom and digital) for many decades and have tried numerous printers since the advent of digital printing. That is why we have settled on Canon printers. They are simply the best, easiest to use and most ink-saving of the major brands. The prints they produce are stunning in every sense of the word.

**TIP**: You may find that when you choose an art paper and want to print borderless, it will not let you print anywhere near the margins of the paper. This is a common quirk. Some printers will not print borderless on any custom paper size. The solution to this for most printers is choosing a paper with equivalent or close characteristics (matte vs glossy etc) that is not a "fine art" paper type.

## PRINT SETTINGS

Make sure that printer color management is turned off. In any recent versions of Mac OSX turning the printer driver color management off is handled automatically. In Windows, it may or may not be, so be sure to check and disable color management. The color settings in Windows will be in the specific printer dialog box that comes up choosing printer settings. It's location will vary based on the specific printer in use. Check the printer manufacturer's documentation for Windows for specific guidance.

Another critical point in print settings is something called Media Type or Paper Type, depending on the printer. It is located somewhere in one of the Print box tabs. This drop-down will give you a list of the manufacturer's own paper types (ie: photo paper, glossy paper). If using a paper from other than the printer manufacturer, you'll not find the exact name of the paper you are using unless a custom paper type is supplied (i.e. a third party paper manufacturer such as Moab). Top tier paper manufacturers will supply the specific paper/media settings to be used with their profiles. The critical distinction is whether photo black ink or matte black ink is going to be used and your choice tells the printer which black ink type to use. Choose the paper/media type settings recommended where possible but definitely choose a paper type that will use  the appropriate photo or matte black ink. If these are mismatched your print will look terrible, but at least now you'll know why.

Within the Print Settings you're going to get a choice of quality options that go from low quality and high print speed, to ultimate quality at slower speed. There is typically a high quality setting that is one down from the absolute highest that is sufficient for nearly every need. It is possibly indistinguishable for most photos at most print sizes, so that you'll never see a difference. That option is signifi-

cantly faster than the ultimate highest quality settings available. There is a small difference, but the best route to take is to try both settings on different papers and see what works for you.

One final point on these settings; not all quality options are available for all media/paper types. A good example is that on many matte papers and canvases the highest quality print settings are disabled. This makes sense when you consider that with canvas you cannot get the print resolution that you can with paper due to canvas' texture.

# A QUICK PRINT CHECKLIST

The following checklist is generic. Please refer to the sections above for more specific information. We have divided this checklist into three basic steps.

## PAPER SETTINGS

- While in the Print module, click Page Setup.
- Choose your specific printer in the "Format For" drop down.
- Set the proper paper size you are using. **Important** if your printer supports roll format and sheet format there are usually similar sizes listed that are specific to roll or sheet options. In most cases one will not work if it does not match-up with the actual feed you intend to use. Also you may rarely see (depending on printer, your computer, other things installed on your computer) what appear to be the same paper choices that are displayed or named slightly differently. If you have issues printing, and there are multiple choices for what appear to be the same sized paper, try using the "other one".
- Select Landscape or Portrait orientation and click OK.

## RIGHT PANEL SETTINGS

- Complete the Image Settings and Layout panel.
- Complete the Print Job panel.

## PRINT SETTINGS

In the bottom bar of the Print screen:

- Click Printer… (or Print Settings...)
- While in the Printer settings, select the printer you will be using.
- Verify that the printer is not trying to do the color management.
- Set up your paper type and quality settings. The most important choice is between glossy or matte type media. That choice will drive which particular black ink is used by the printer.
- Make sure you are choosing the appropriate feed such as auto load sheet feeder, rear load single sheet, or roll.
- All printers will have different specifics and most will have options that don’t exist across all printers or even across all printers of the same brand. The above are general things that need to be paid at-

tention to no matter which specific printer you are using. Typically there are quirks that are printer dependent such as forcing you to use the single sheet feeder if any type of *"fine art"* paper is selected when it's not at all necessary.

- Click Print.

8

# CASE STUDIES

# CASE STUDIES

Once you have begun your fine art printing journey, even if you are well advanced, you will undoubtedly run into situations where you are dissatisfied with a print. Perhaps it is too dark or light, despite your post-processing efforts, or it has a "muddy" appearance. In other instances, the highlights in a print simply do not render well enough to meet your high expectations. Another frustration most photographers face is in the choice of papers. Will an image look best on a glossy paper or would a matte paper achieve the artistic look I'm after? Should I use textured paper and what about that GSM rating?

In this section we offer you our expertise on how to address these and other challenges you may face with a few detailed examples. In addition to the case studies included here, we have a dedicated website where new case studies are added regularly. Visit the fine art printing site often for new case studies and information.

Multiple proofs for shadow density

# PRINT TOO DARK/SHADOW SEPARATION

A common problem everyone faces at one time or another is that of too-dark prints. They may look fine on screen, but the finished print is definitely not.

In this example, the image below is what the finished post-processed image looks like, ready to print. But, the original RAW file was quite different.

The original color image strait out of camera looked like figure 8.1.1.

Obviously, the image is not much to get excited about, as Lightroom tends to produce a relatively flat result for imported RAW files. This particular scene also has a significant amount of atmospheric haze that dulls the contrast even further. However, the scene itself has a lot of potential due to the great depth from the foreground trees in shadow to the distant mountains in the background, framed by the mid-ground mountains and lake. It also has great interest in the clouds which, in turn, are casting fantastic shadows on all of the mountains.

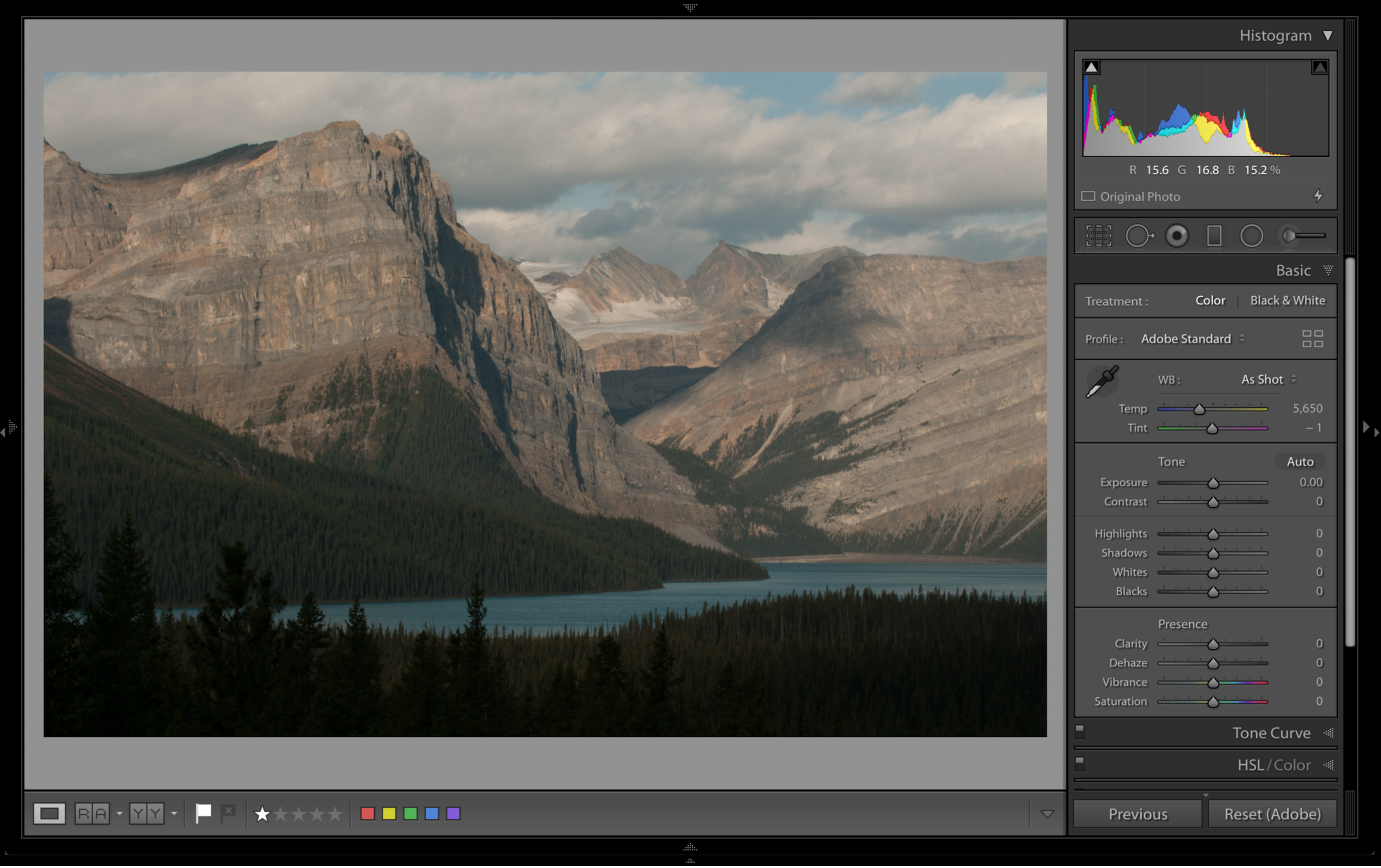
In the spirit of Ansel Adams who spent a lifetime photographing landscape and obsessing over *"The Print"*, let's prepare this photo for printing as a classic black & white. Take a look at the strait-up Lightroom B/W conversion in the Basic panel seen in figure 8.1.2.

The black & white conversion illustrates to an even greater degree how this image lacks contrast. In general most prints on paper need a bit more contrast than what one would guess they might need on-screen. So, the first thing is to add some contrast. I've done so in figure 8.1.3 using the *Basic panel* Contrast slider.

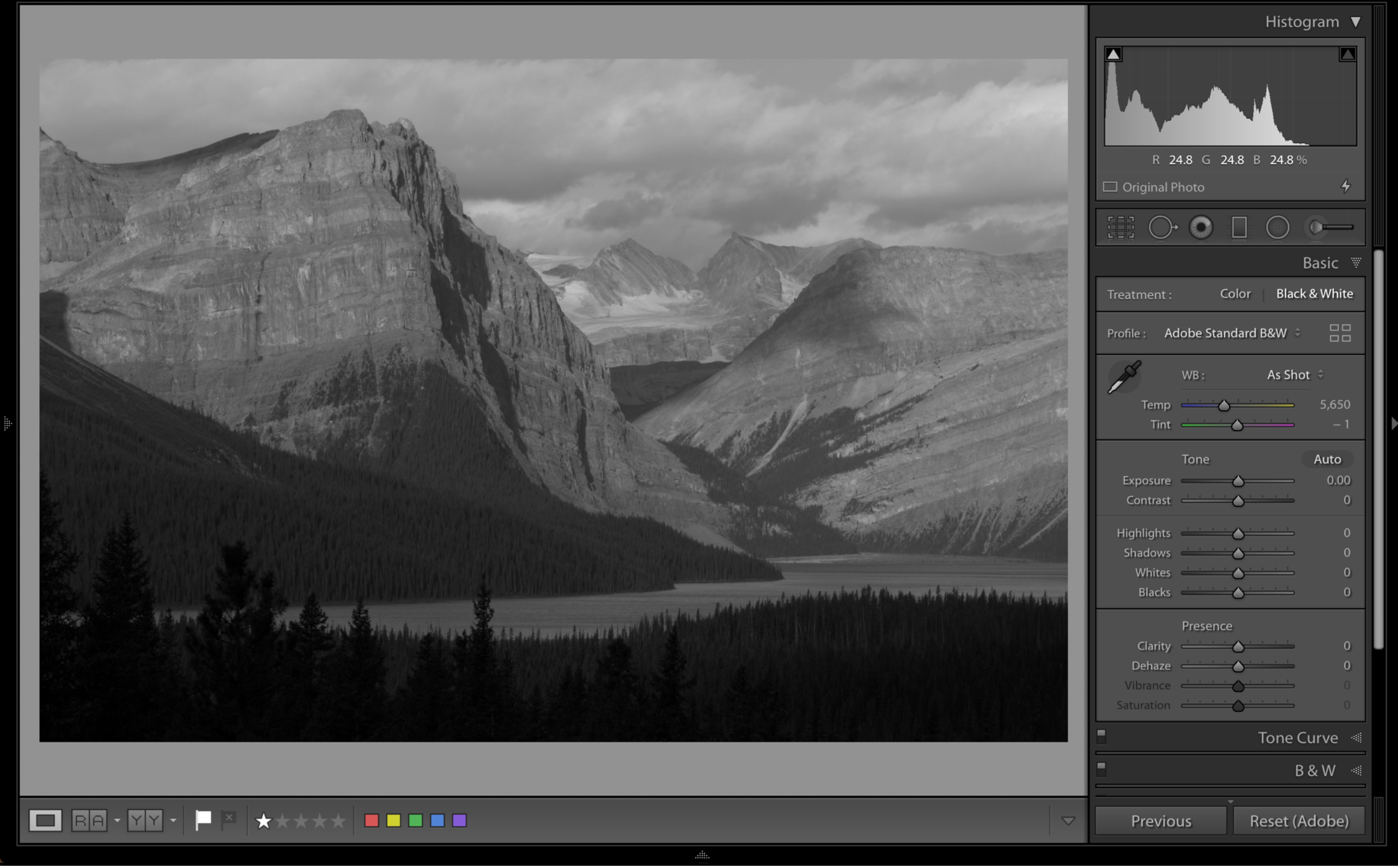
I've maxed out the contrast slider here to 100%. That may seem extreme, but due to the haze this is an extreme case. I tend to use the Basic panel Contrast slider before I use things like clarity and dehaze, which can produce strange, artificial looking artifacts if used heavily. Both also add contrast in slightly different ways. Note that even using extreme contrast settings doesn't clip blacks and whites as much as one might expect.

At this point we've got much better local contrast everywhere but even on screen we can see it's far too dark overall. It's especially dark in the foreground trees where we now have no separation. Let's fix that separation problem.

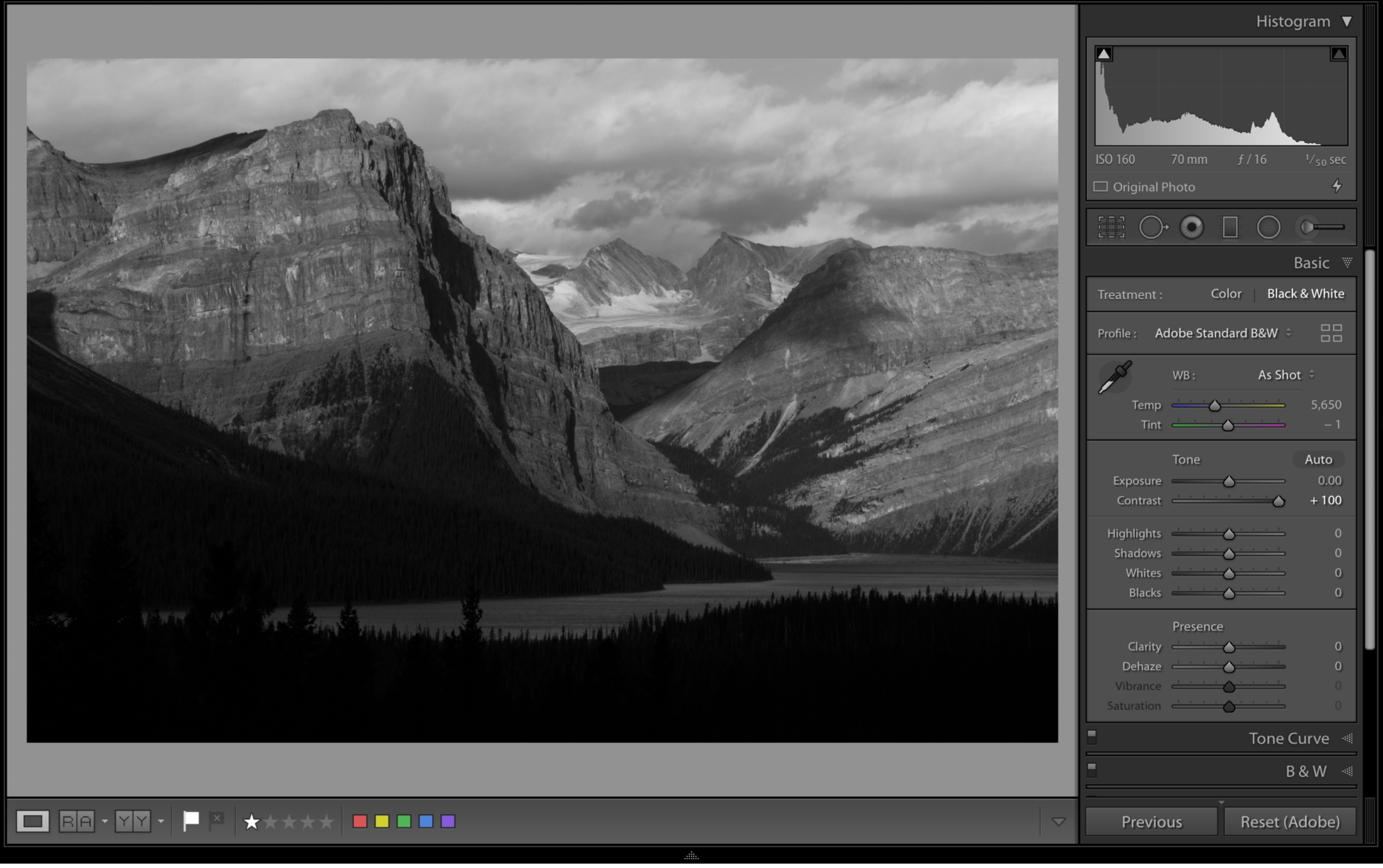
## Final Image


Histogram
R 15.6 G 16.8 B 15.2 %
Original Photo
Basic
Treatment : Color | Black & White
Profile : Adobe Standard
WB : As Shot
Temp 5,650
Tint – 1
Tone
Auto
Exposure 0.00
Contrast 0
Highlights 0
Shadows 0
Whites 0
Blacks 0
Presence
Clarity 0
Dehaze 0
Vibrance 0
Saturation 0
Tone Curve
HSL / Color
Previous
Reset (Adobe)

8.1.1


Histogram
R 24.8 G 24.8 B 24.8 %
Original Photo
Basic
Treatment : Color | Black & White
Profile : Adobe Standard B&W
WB : As Shot
Temp 5,650
Tint – 1
Tone
Auto
Exposure 0.00
Contrast 0
Highlights 0
Shadows 0
Whites 0
Blacks 0
Presence
Clarity 0
Dehaze 0
Vibrance 0
Saturation 0
Tone Curve
B & W
Previous
Reset (Adobe)

8.1.2


Histogram
ISO 160
70 mm
ƒ / 16
1/50 sec
Original Photo
Basic
Treatment :
Color
Black & White
Profile :
Adobe Standard B&W
WB :
As Shot
Temp
5,650
Tint
– 1
Tone
Auto
Exposure
0.00
Contrast
+ 100
Highlights
0
Shadows
0
Whites
0
Blacks
0
Presence
Clarity
0
Dehaze
0
Vibrance
0
Saturation
0
Tone Curve
B & W
Previous
Reset (Adobe)

8.1.3

Looking at figure 8.1.4 I used a large sloppy Local adjustment brush, which is highlighted in red, targeting the shadows and mid-tones (Exposure slider). I also had the auto-mask feature turned on. I started where the tones of the trees were a little lighter. This tends to leave the super dark (almost approaching black) tones alone, which is good for this image as we're attempting to increase local contrasts for much of this scene.

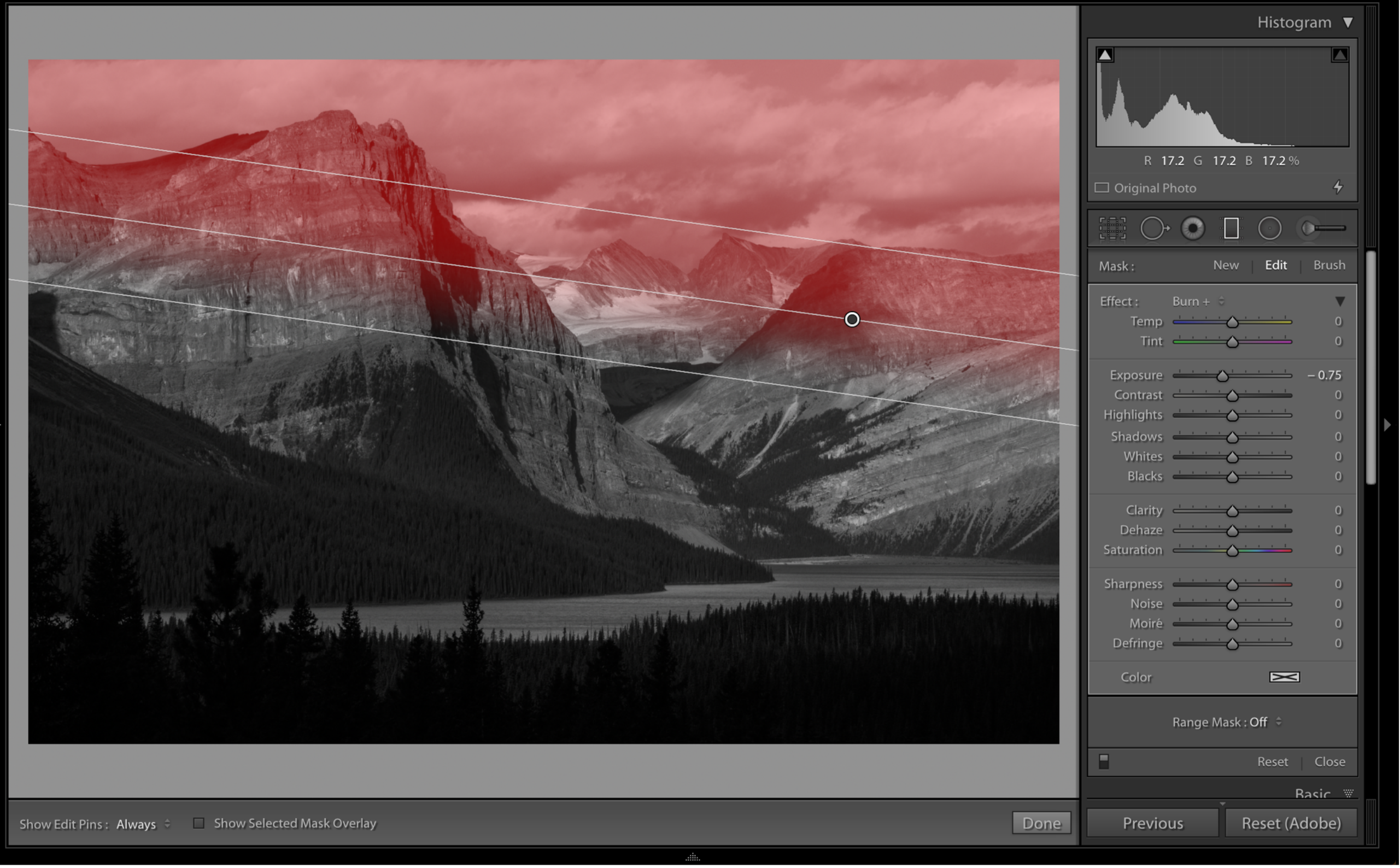
Overall the image is still too dark everywhere but we can see that the sky is significantly lighter than everything else. Before we fix the overall brightness I'll add a big soft gradient to bring most of the sky and very bright parts of the mountain tops down a little in anticipation of adding brightness everywhere (figure 8.1.5).

Now we've got a reasonably well balanced image in terms of overall brightest to darkest areas, but still way too dark visually and as shown by the histogram. We've got almost no highlights or whites. Time for a few global adjustments to fix that. First I'll add a little bit of exposure.

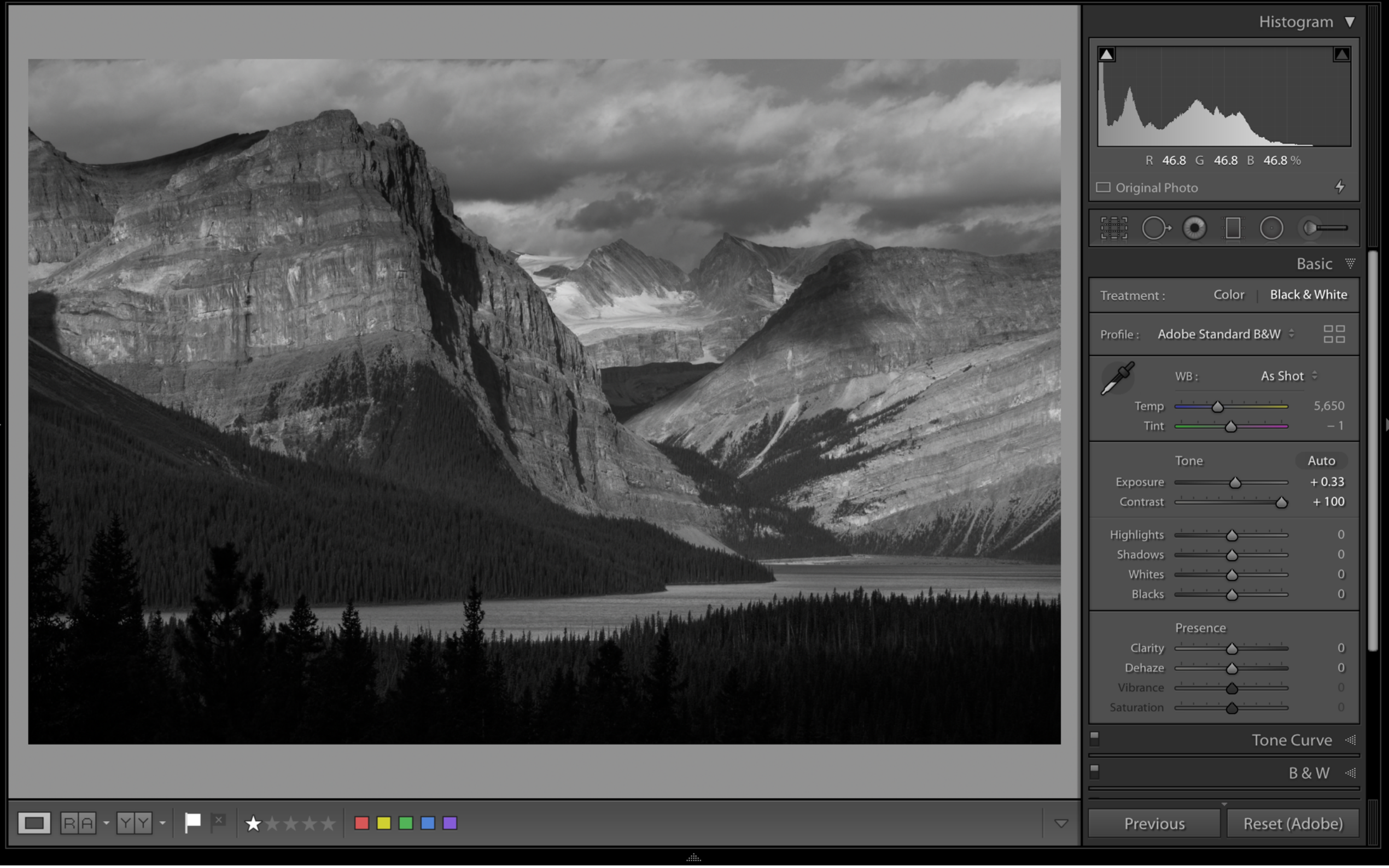
As you see in figure 8.1.6, I've only added 1/3 of a stop and it's produced more of an effect than you might have guessed. When we've got the amount of mid-tone contrast already pumped in (100%), even tiny changes to the exposure control will change the look wildly. The image is still too dark but instead of ramping up exposure more and more I'm going to manipulate the highlights and whites directly as that's where the photo is lacking in a big way.

Histogram
R 1.3 G 1.3 B 1.3 %
Original Photo
Mask :
New
Edit
Effect :
Dodge Shadows
Temp 0
Tint 0
Exposure 0.30
Contrast 0
Highlights 0
Shadows 35
Whites 0
Blacks 0
Clarity 0
Dehaze 0
Saturation 0
Sharpness 0
Noise 0
Moiré 0
Defringe 0
Color
Brush :
A
B
Erase
Size 2.8
Feather 100
Flow 100
Auto Mask
Show Edit Pins :
Always
Show Selected Mask Overlay
Done
Previous
Reset (Adobe)

8.1.4


Histogram
R 17.2 G 17.2 B 17.2 %
Original Photo
Mask :
New
Edit
Brush
Effect :
Burn +
Temp
Tint
Exposure
– 0.75
Contrast
Highlights
Shadows
Whites
Blacks
Clarity
Dehaze
Saturation
Sharpness
Noise
Moiré
Defringe
Color
Range Mask : Off
Reset
Close
Basic
Show Edit Pins : Always
Show Selected Mask Overlay
Done
Previous
Reset (Adobe)

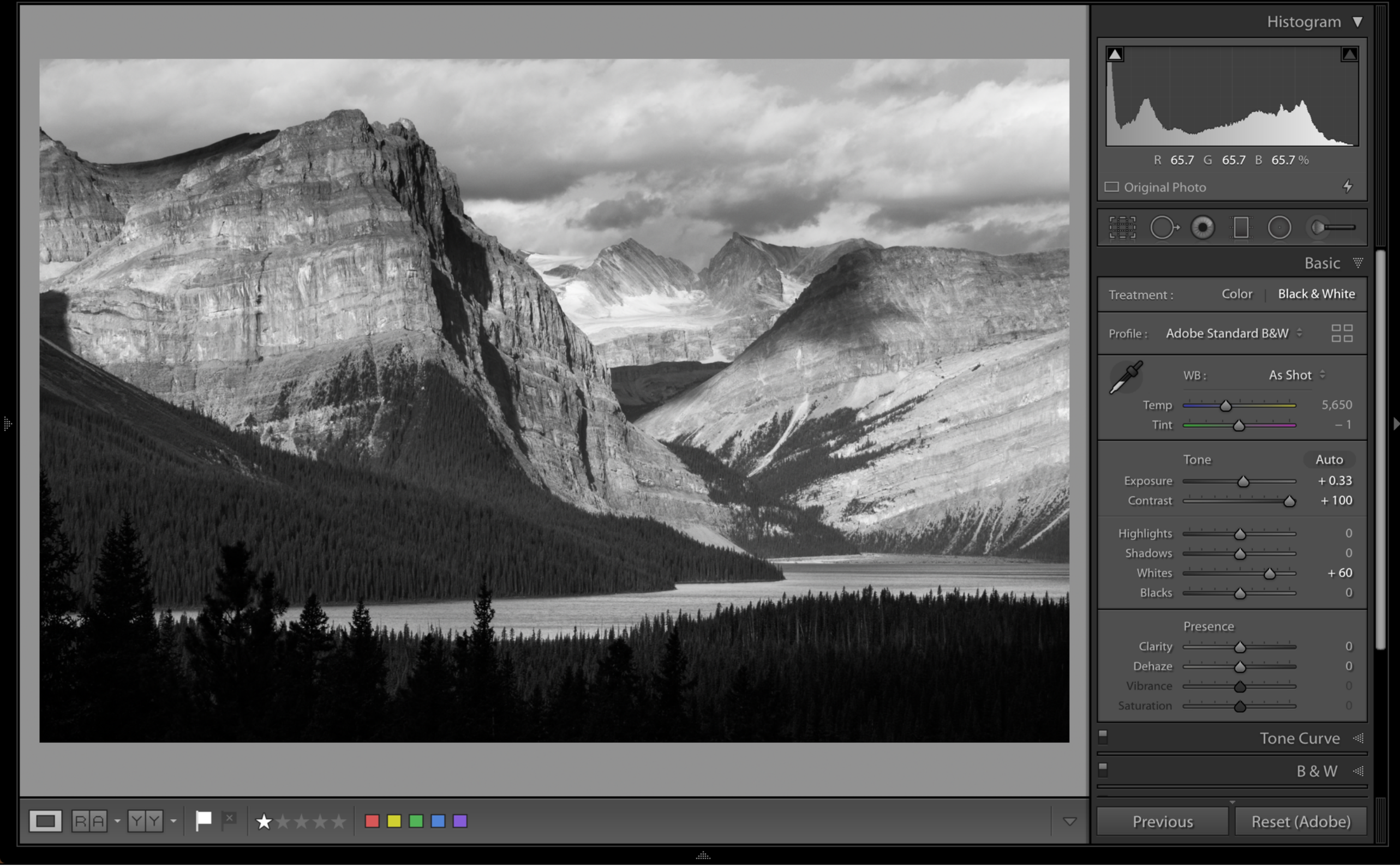
8.1.5


Histogram
R 46.8 G 46.8 B 46.8 %
Original Photo
Basic
Treatment : Color | Black & White
Profile : Adobe Standard B&W
WB : As Shot
Temp 5,650
Tint – 1
Tone Auto
Exposure + 0.33
Contrast + 100
Highlights 0
Shadows 0
Whites 0
Blacks 0
Presence
Clarity 0
Dehaze 0
Vibrance 0
Saturation 0
Tone Curve
B & W
Previous
Reset (Adobe)

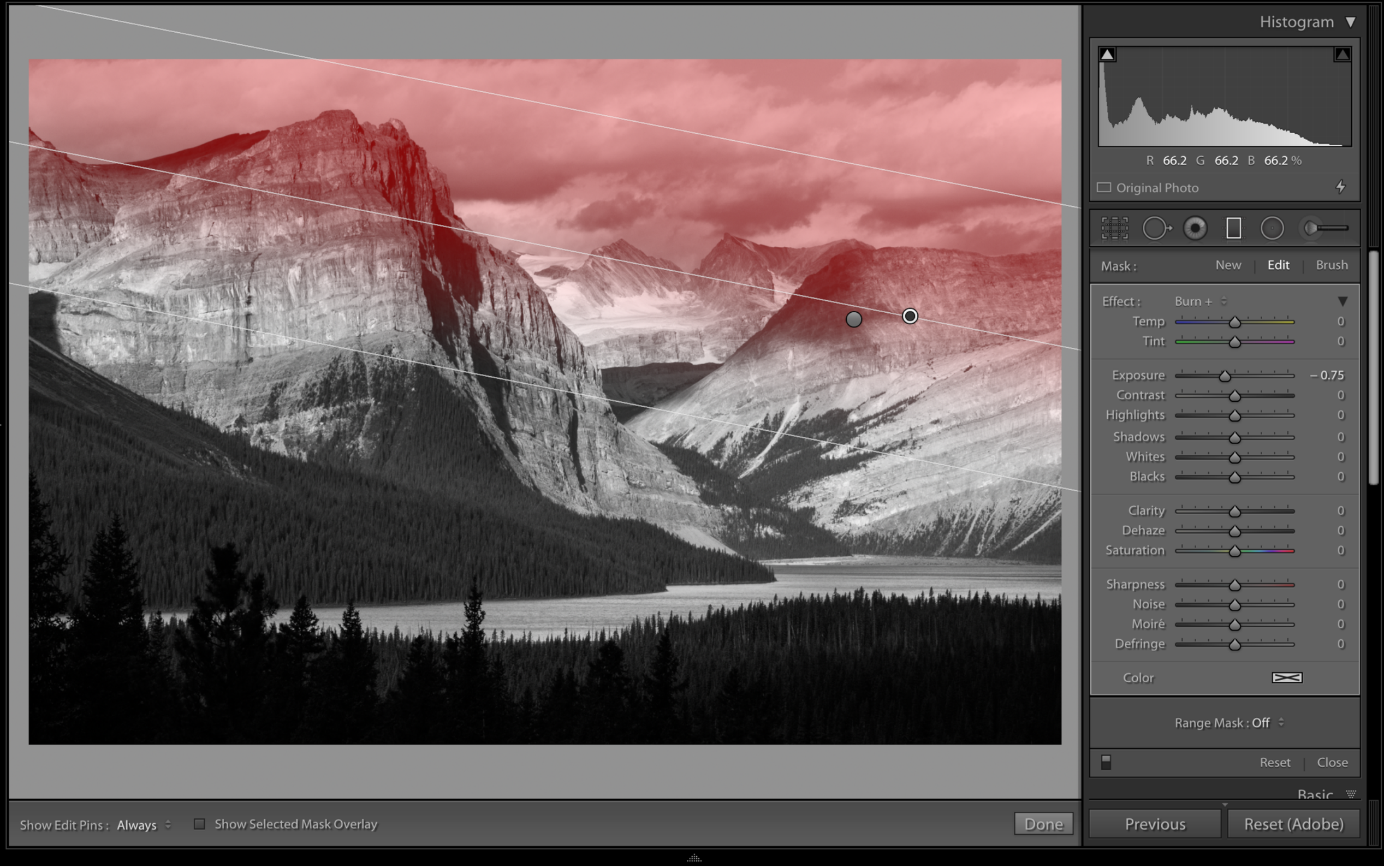
8.1.6

I've raised the whites a significant amount which will pull everything up with it and add a lot of contrast in the process (figure 8.1.7). The Exposure slider tends to compress the highlights while trying to push the mid-tones up. For this case I wanted as much contrast between all of those mid-to-high-to-white values as I could get. Now the potential of this scene is starting to show but with the last set of global adjustments it's apparent that I didn't lower the sky enough, as it is lacking drama.

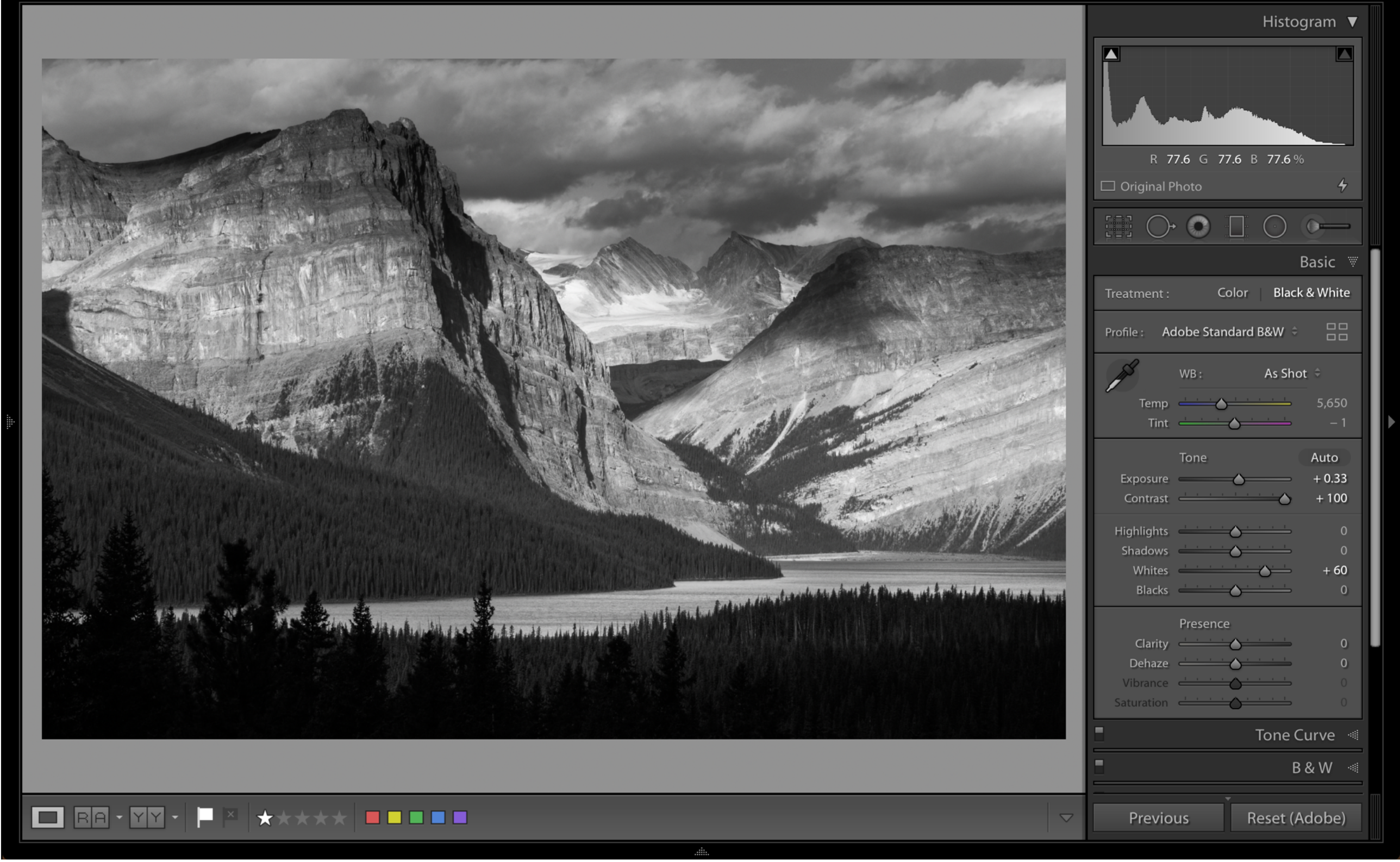
Instead of changing the values of the original gradient I instead just added another one on top that's not exactly lined up with the first. Sometimes adding a couple of similar but not identical soft gradients can look more natural than one extreme adjustment.


Histogram
R 65.7 G 65.7 B 65.7 %
Original Photo
Basic
Treatment : Color | Black & White
Profile : Adobe Standard B&W
WB : As Shot
Temp 5,650
Tint – 1
Tone Auto
Exposure + 0.33
Contrast + 100
Highlights 0
Shadows 0
Whites + 60
Blacks 0
Presence
Clarity 0
Dehaze 0
Vibrance 0
Saturation 0
Tone Curve
B & W
Previous
Reset (Adobe)

8.1.7


Histogram
R 66.2 G 66.2 B 66.2 %
Original Photo
Mask :
New
Edit
Brush
Effect :
Burn +
Temp
Tint
Exposure
– 0.75
Contrast
Highlights
Shadows
Whites
Blacks
Clarity
Dehaze
Saturation
Sharpness
Noise
Moiré
Defringe
Color
Range Mask : Off
Reset
Close
Basic
Show Edit Pins : Always
Show Selected Mask Overlay
Done
Previous
Reset (Adobe)

8.1.8


Histogram
R 77.6 G 77.6 B 77.6 %
Original Photo
Basic
Treatment : Color | Black & White
Profile : Adobe Standard B&W
WB : As Shot
Temp 5,650
Tint – 1
Tone Auto
Exposure + 0.33
Contrast + 100
Highlights 0
Shadows 0
Whites + 60
Blacks 0
Presence
Clarity 0
Dehaze 0
Vibrance 0
Saturation 0
Tone Curve
B & W
Previous
Reset (Adobe)

8.1.9

It's looking pretty good (figure 8.1.9) at this point and I may even be able to live with it **if it printed exactly like it looks on-screen**. But it still does not have enough pop or local contrast to print well. One's perception of "too dark" in a print might be that the print is actually too dark, or it may be that a lack of local contrast gives the perception of a print being too dark. To separate things even more I'll use the color mix for the black & white conversion (figure 8.1.10).

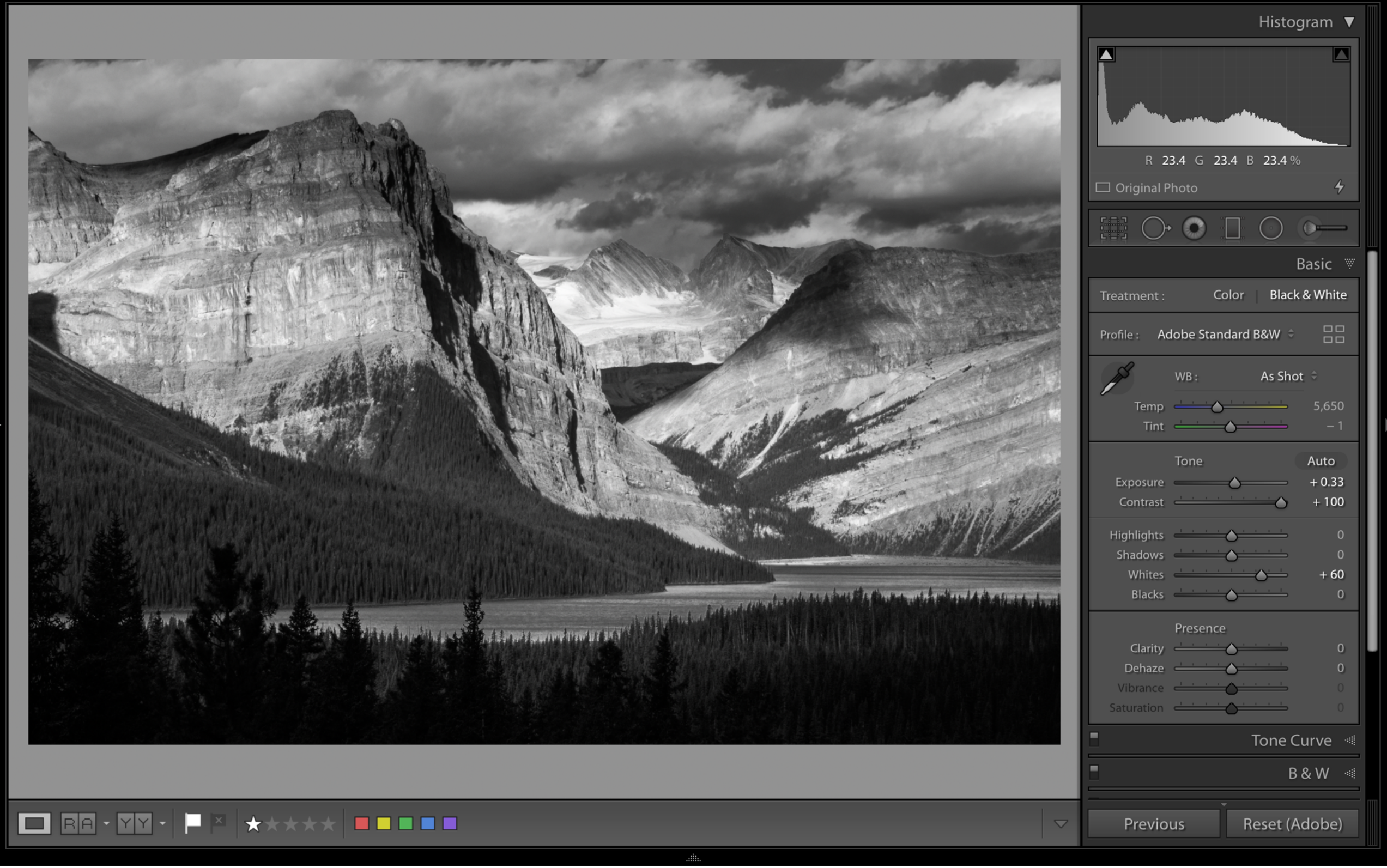
It's easy to forget how important the color contrasts of a scene are when working in black & white. As evidenced here they can make a night and day difference in terms of separation of tones, even with relatively modest adjustments. Now it's time for the fine-tuning. The first thing that I see is the area in the middle of the mountains all the way to the right is too bright and leads one's eye off the frame. To contain things a bit I added another big sloppy brush in that bright area, bringing down the exposure (figure 8.1.11).

That does a lot for the overall look but I still want to fine tune the local contrast everywhere to bring out all the fine detail a little more and render the impression of the strong sunlight that existed in the scene, but I also want to minimize the haze. Now it's time to turn to clarity and de-haze in small doses (figure 8.1.12).

Histogram
R 88.3 G 88.3 B 88.3 %
Original Photo
Basic
Tone Curve
B & W
Black & White Mix
Red +4
Orange –2
Yellow +10
Green –25
Aqua –39
Blue –61
Purple –43
Magenta –17
Auto
Split Toning
Detail
Lens Corrections
Transform
Effects
Calibration
Previous
Reset (Adobe)

8.1.10

Histogram
R 68.6 G 68.6 B 68.6 %
Original Photo
Mask :
New
Edit
Effect :
Burn
Temp
0
Tint
0
Exposure
– 0.50
Contrast
0
Highlights
0
Shadows
0
Whites
0
Blacks
0
Clarity
0
Dehaze
0
Saturation
0
Sharpness
0
Noise
0
Moiré
0
Defringe
0
Color
Brush :
A
B
Erase
Size
2.8
Feather
100
Flow
100
Auto Mask
Show Edit Pins :
Always
Show Selected Mask Overlay
Done
Previous
Reset (Adobe)


Histogram
R 23.4 G 23.4 B 23.4 %
Original Photo
Basic
Treatment : Color | Black & White
Profile : Adobe Standard B&W
WB : As Shot
Temp 5,650
Tint – 1
Tone Auto
Exposure + 0.33
Contrast + 100
Highlights 0
Shadows 0
Whites + 60
Blacks 0
Presence
Clarity 0
Dehaze 0
Vibrance 0
Saturation 0
Tone Curve
B & W
Previous
Reset (Adobe)

8.1.12

Adding that clarity is starting to affect the dark areas in the foreground too much (figure 8.1.13). They definitely won't separate well in a print. That will become even worse if I add a dose of de-haze. de-haze is best used in small doses as it tends to darken everything from mid-tones and below. To counteract some of the effect in the darkest areas I've brought up the blacks a little in the Basic Panel (figure 8.1.14). Adding some de-haze (figure 8.1.15) now adds some local contrast without killing all of the the detail in the shadows.

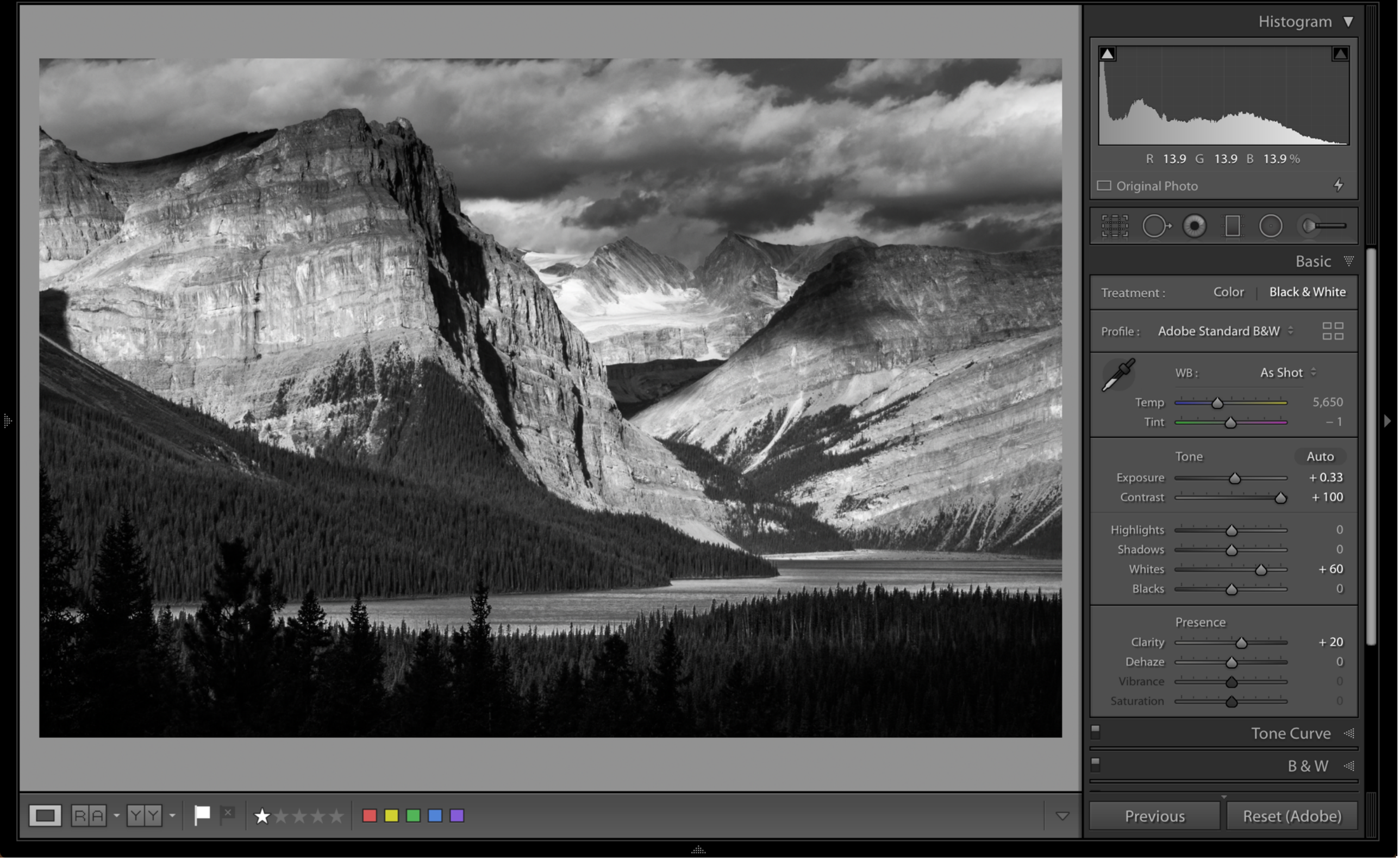
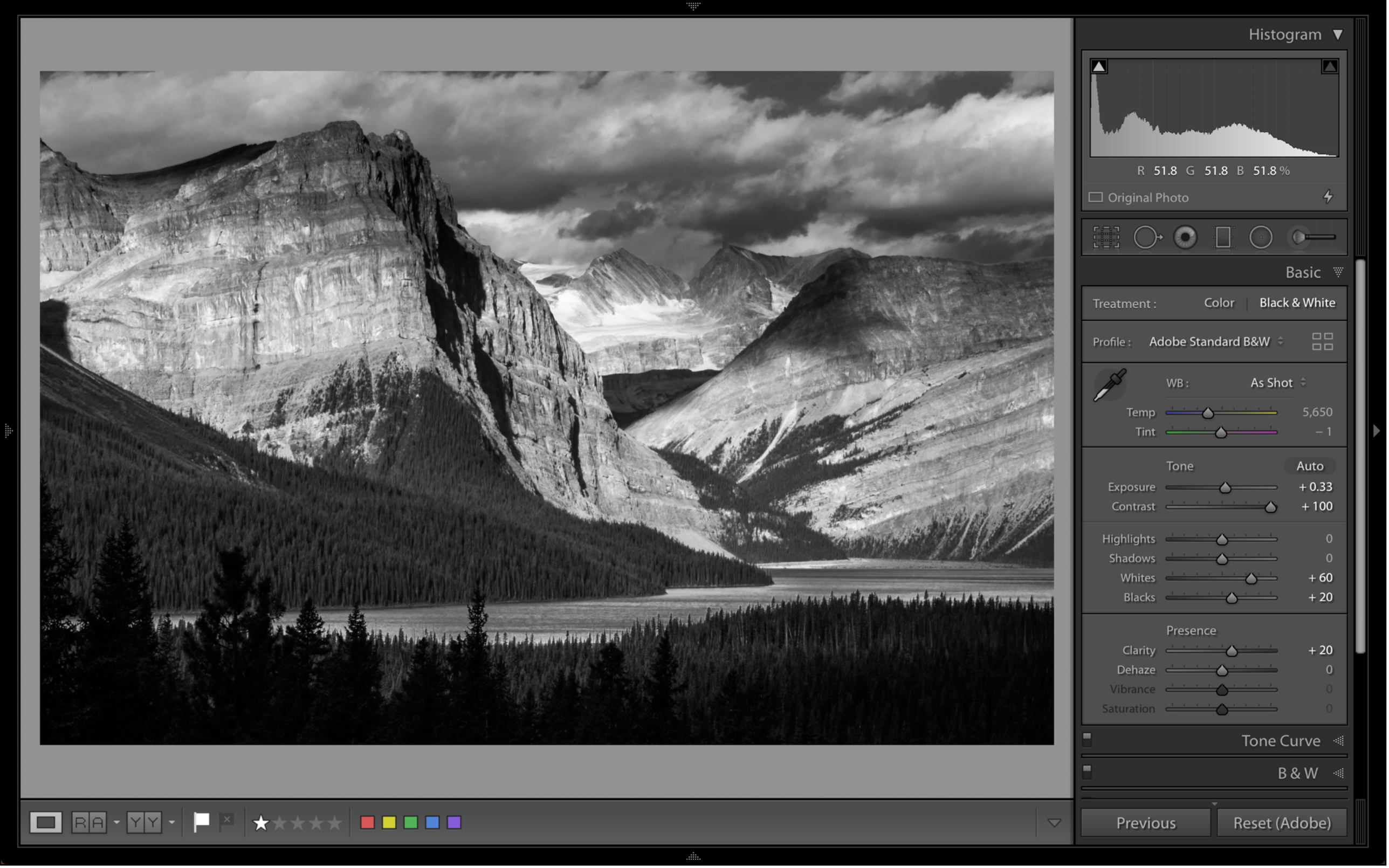
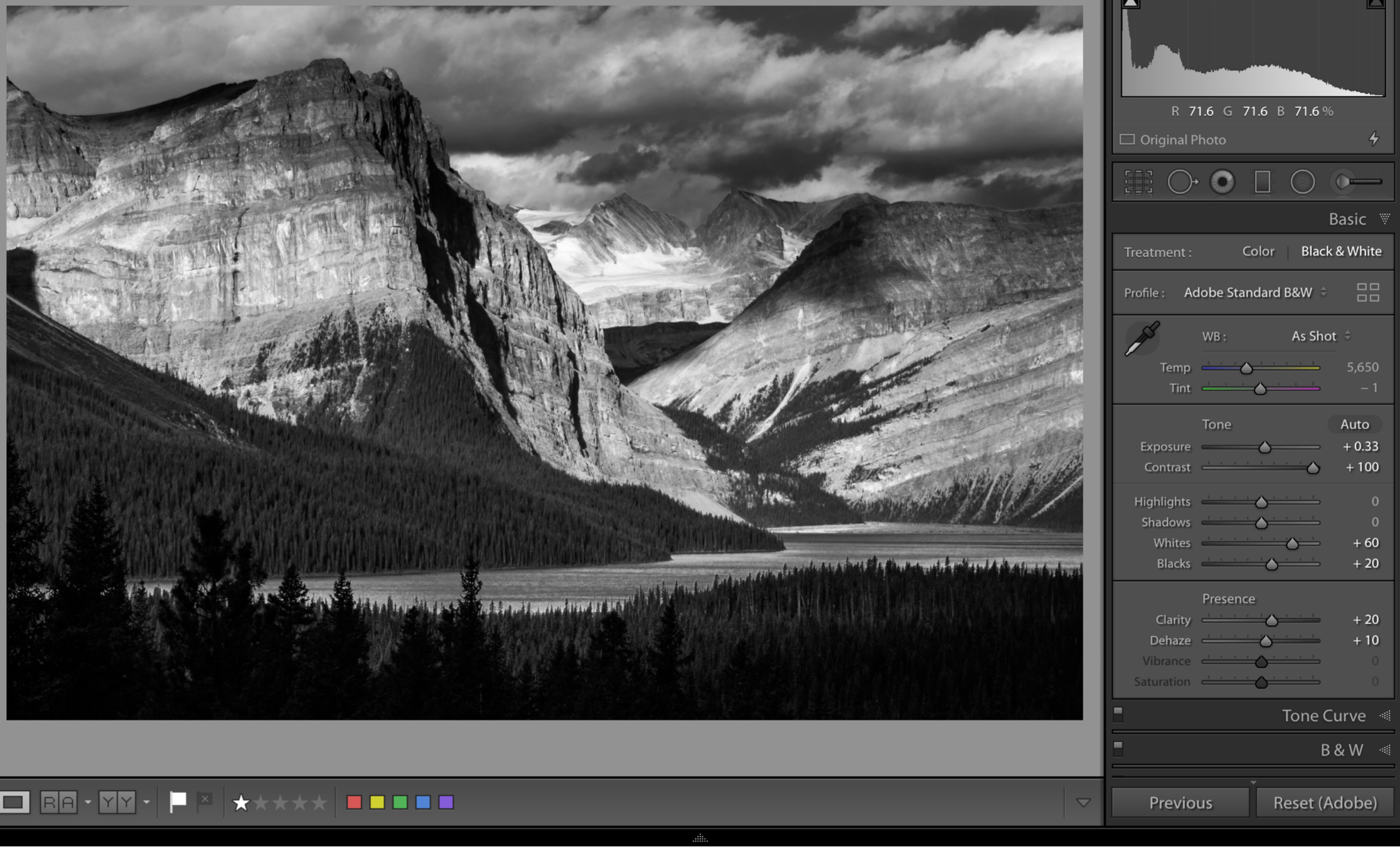

Histogram
R 13.9 G 13.9 B 13.9 %
Original Photo
Basic
Treatment : Color | Black & White
Profile : Adobe Standard B&W
WB : As Shot
Temp 5,650
Tint – 1
Tone Auto
Exposure + 0.33
Contrast + 100
Highlights 0
Shadows 0
Whites + 60
Blacks 0
Presence
Clarity + 20
Dehaze 0
Vibrance 0
Saturation 0
Tone Curve
B & W
Previous
Reset (Adobe)

figure 8.1.13


Histogram
R 51.8 G 51.8 B 51.8 %
Original Photo
Basic
Treatment : Color | Black & White
Profile : Adobe Standard B&W
WB : As Shot
Temp 5,650
Tint – 1
Tone
Auto
Exposure + 0.33
Contrast + 100
Highlights 0
Shadows 0
Whites + 60
Blacks + 20
Presence
Clarity + 20
Dehaze 0
Vibrance 0
Saturation 0
Tone Curve
B & W
Previous
Reset (Adobe)

8.1.14


Histogram
R 71.6 G 71.6 B 71.6 %
Original Photo
Basic
Treatment : Color | Black & White
Profile : Adobe Standard B&W
WB : As Shot
Temp 5,650
Tint – 1
Tone Auto
Exposure + 0.33
Contrast + 100
Highlights 0
Shadows 0
Whites + 60
Blacks + 20
Presence
Clarity + 20
Dehaze + 10
Vibrance 0
Saturation 0
Tone Curve
B & W
Previous
Reset (Adobe)

8.1.15

Next I'll brighten the areas in the clouds where the sun is hitting them by using a brush to brighten just the lightest areas of the clouds (figure 8.1.16). Using that gradient tool previously brought down the exposure of the rest of the sky too far. Again it's all about separation using the light in the scene as a guide. I've hovered over the adjustment brush so that you can see the affected shown with the red overlay in figure 8.1.17.

Now I stop and look at the image against white borders, using soft proofing which tends to give a better preview of how highlights will look in a print. I see that I want to add one last tweak, so I've upped the whites a hair more (figure 8.1.18).

Now it's time for a proof print on a couple of papers I have in mind for this image. It almost always takes a proof on the specific paper the final image will print on to adjust the overall density of the mid-tones, shadows, and highlights.

Histogram
R 84.5 G 84.5 B 84.5 %
Original Photo
Mask :
New
Edit
Effect :
Dodge
Temp 0
Tint 0
Exposure 0.50
Contrast 0
Highlights 0
Shadows 0
Whites 0
Blacks 0
Clarity 0
Dehaze 0
Saturation 0
Sharpness 0
Noise 0
Moiré 0
Defringe 0
Color
Brush :
A
B
Erase
Size 2.8
Feather 100
Flow 100
Auto Mask
Show Edit Pins : Always
Show Selected Mask Overlay
Done
Previous
Reset (Adobe)

8.1.16

Histogram

R 80.7 G 80.7 B 80.7 %

Original Photo

Basic

Treatment : Color | Black & White

Profile : Adobe Standard B&W

WB : As Shot

Temp 5,650

Tint – 1

Tone Auto

Exposure + 0.33

Contrast + 100

Highlights 0

Shadows 0

Whites + 65

Blacks + 20

Presence

Clarity + 20

Dehaze + 10

Vibrance 0

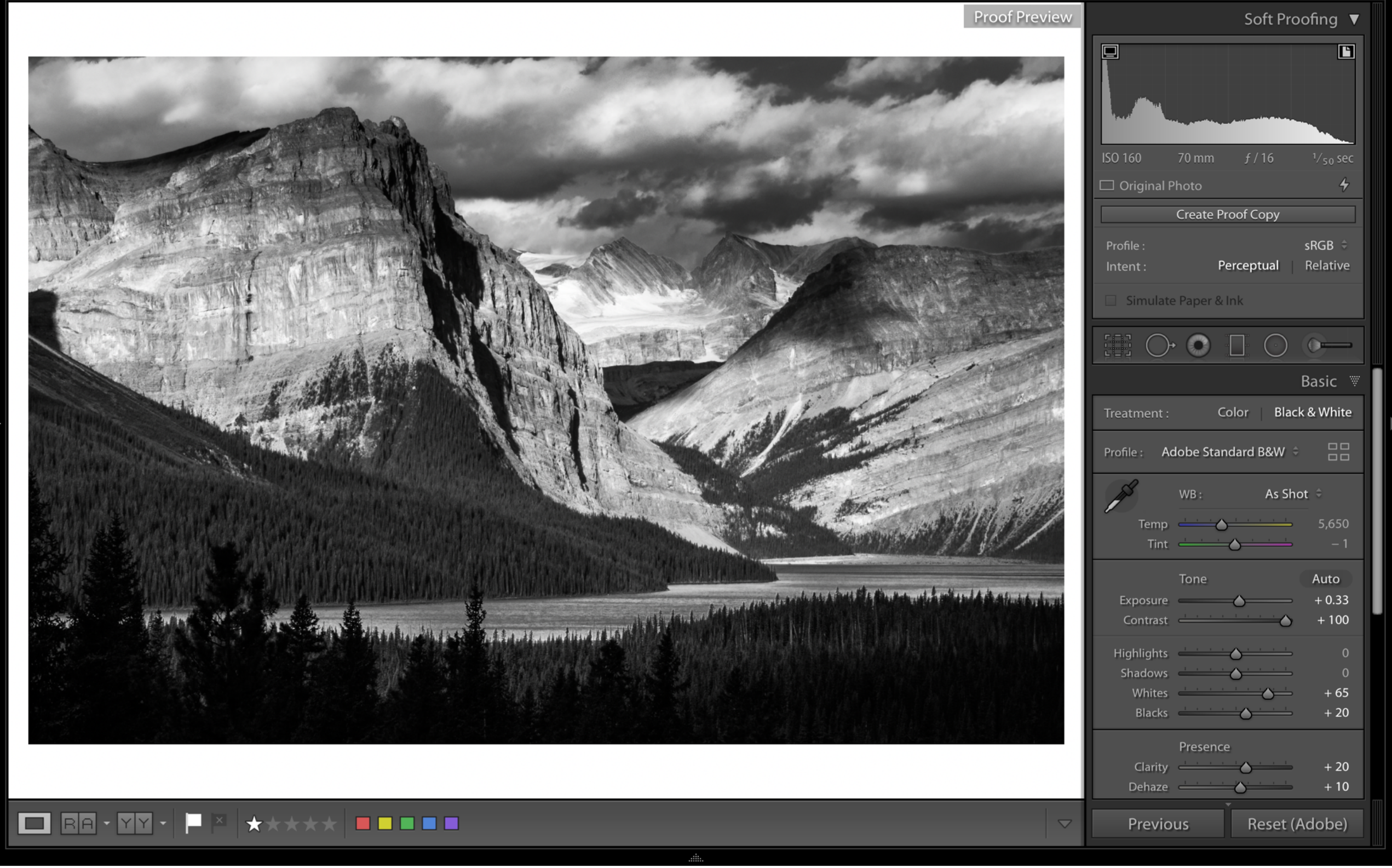
Saturation 0

Tone Curve

B & W

Previous Reset (Adobe)

8.1.17


Proof Preview
Soft Proofing
ISO 160
70 mm
ƒ / 16
1/50 sec
Original Photo
Create Proof Copy
Profile :
sRGB
Intent :
Perceptual
Relative
Simulate Paper & Ink
Basic
Treatment :
Color
Black & White
Profile :
Adobe Standard B&W
WB :
As Shot
Temp
5,650
Tint
– 1
Tone
Auto
Exposure
+ 0.33
Contrast
+ 100
Highlights
0
Shadows
0
Whites
+ 65
Blacks
+ 20
Presence
Clarity
+ 20
Dehaze
+ 10
Previous
Reset (Adobe)

8.1.18

# HIGHLIGHT RENDERING/SEPARATION

As with prints that appear too dark, you will certainly face situations in which the highlights in your print do not render with enough detail. This is a thorny problem and may require some deep work to rectify.

As an example, figure 8.2.1 is an image of a section of dunes at White Sands National Monument.

Figure 8.2.2 is the default black and white conversion of some of the smooth dunes against a rougher flat portion of sand in White Sands National Monument. As you can see it's a solid mid-tone exposure of tones that are relatively close together. The overall result is far darker in perception than the actual scene and lacks overall separation.

Typically that's not what one wants in a photograph and definitely not an art print.

If we approach adjusting this image in a strait-forward and typical way we will get results that could be considered great, even *"perfect"*. Figure 8.2.3 represents maximization of the contrast in the image in the simplest way possible. All we've done, as you can see in the curves panel, is drag the black point so we have a few pixels show up as black and then drag the white point of the curve so a few pixels show up as white. You can see the tonal distribution on the histogram.

Lightroom Catalog.lrcat - Adobe Photoshop Lightroom - Develop
Navigator
FIT FILL 1:1 1:4
DSC_3379.NEF • Copy 12
1/400 sec at ƒ / 16, ISO 200
70 mm (24.0-70.0 mm f/2.8)
F - Kodak E100VS +
F - Kodak E100VS ++
F - Kodak E100VS +++
F - Kodak E100VS Balance Cool
F - Kodak E100VS Balance Warm
F - Kodak E100VS Balance Warm +
F - Kodak E100VS Landscape
F - Kodak E100VS Portrait
F - Kodak E200
F - Kodak E200 -
F - Kodak E200 - -
F - Kodak E200 +
F - Kodak E200 ++
F - Kodak E200 ++ Alt
F - Kodak E200 +++
F - Kodak E200 Balance Cool
F - Kodak E200 Balance Warm
F - Kodak E200 HC
F - Kodak E200 Portrait
F - Kodak E200 Vibrant
VSCO Film 04 Nikon
VSCO Film 04 Standard
VSCO Film 04 Toolkit
VSCO Film LR4 Toolkit
VSCO Film LR4 Toolkit - Color
VSCO Film Toolkit
VSCO Film Toolkit - Color
WOW PhotoPresets
landscape-brushes
landscape-grad-filter-presets
landscape-print-templates
landscape-workflow-presets
matts_big_sky_presets
sky-replacements
User Presets
Snapshots
History
Highlights +60 -40
Highlights -100 -100
White Clipping +1 82
White Clipping +1 81
White Clipping -5 80
White Clipping +15 85
Exposure -0.33 1.32
Exposure -0.33 1.65
Highlights +100 0
Highlights 0 -100
Highlights 0 -100
Highlights -20 -100
Highlights -20 -80
Highlights -60 -60
Highlights +20 0
Highlights +60 -20
Copy...
Paste
Soft Proofing
Histogram
R 96.3 G 96.3 B 96.3 %
Original Photo
Basic
Treatment : Color Black & White
WB : As Shot
Temp 4,750
Tint +7
Tone Auto
Exposure +1.32
Contrast 0
Highlights -40
Shadows 0
Whites +82
Blacks 0
Presence
Clarity 0
Vibrance 0
Saturation 0
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Previous
Reset

8.2.1

Lightroom Catalog.lrcat - Adobe Photoshop Lightroom - Develop
Navigator
FIT
FILL
1:1
1:4
Presets
Snapshots
History
Collections
Filter Collections
Sinai Hospital
Printed Large 47
Smart Collections
Printed images 119
Printed Images(c... 119
Printed images 119
Printing 0
Printing-ebook-case-s... 21
temporary-print-demo 6
To Print(2) 1
yukon-2016-prints 0
Jim-print 11
Norm Print 12
other-peoples-prints 2
Print-sand dunes 2
Sample Prints 6
DSC_3379.NEF • Copy 10
1/400 sec at ƒ / 16, ISO 200
70 mm (24.0-70.0 mm f/2.8)
Histogram
ISO 200
70 mm
ƒ / 16
1/400 sec
Original Photo
Basic
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Copy...
Paste
Soft Proofing
Previous
Reset

8.2.2

Lightroom Catalog.lrcat - Adobe Photoshop Lightroom - Develop
Navigator
FIT FILL 1:1 1:4
Presets
Snapshots
History
Collections
Filter Collections
Sinai Hospital
Printed Large 47
Smart Collections
Printed images 119
Printed Images(c... 119
Printed images 119
Printing 0
Printing-ebook-case-s... 21
temporary-print-demo 6
To Print(2) 1
yukon-2016-prints 0
Jim-print 11
Norm Print 12
other-peoples-prints 2
Print-sand dunes 2
Sample Prints 6
DSC_3379.NEF • Copy 11
1/400 sec at ƒ / 16, ISO 200
70 mm (24.0-70.0 mm f/2.8)
Histogram
R 16.2 G 16.2 B 16.2 %
Original Photo
Basic
Tone Curve
Channel : RGB
Point Curve : Custom
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Copy...
Paste
Soft Proofing
Previous
Reset

8.2.3

While this treatment is appropriate and will likely make a very attractive print, it's not what we had in mind. Instead we wanted a print that better represented the way the actual scene presented itself. When standing there with a camera, what Les saw was a sea of subtly differentiated whites. Let's take another crack at getting the image to that point.

In figure 8.2.4 we've attempted to get the overall feel entirely through additional exposure in the Basic panel. Conceptually this is more like what we want to see in the print but it does not show much separation within the highlights. Additionally there are actually no whites at all as you can see on the far right of the histogram. When increasing the exposure control it does its best to keep values from hitting up against that absolute wall. In some cases that's what you want. The Exposure slider accomplishes this by compressing highlights and whites more and more putting those highlight tones closer and closer together. In other words it decreases separation (contrast) in the highlights and whites as you increase the exposure control. Definitely not what we want with this image.

Figure 8.2.5 takes a different approach. Instead of dumping in as much exposure to get the bulk of the tones in the range we're looking for, we used the Exposure control to get halfway there. For the other half we used the whites control, increasing it enough just so there are a few pixels that show absolute white. Clearly you can see a significant difference in the increased contrast throughout the highlights region and also how different the rendering is now that we start touching the white point. This will make even a bigger difference on paper.

Figure 8.2.6 shows an alternative rendition with about the same absolute whites and similar, if not identical, darkest values as you can see by comparing the two histograms. This time an extreme negative setting was used in the highlights control to pull some of the values away from absolute white. We compensated by moving the white point a little farther up. A quirk of the Basic panel sliders is that that negative highlight values also pull the darkest values up instead of moving them down or leaving them the same. We compensated by backing off of the Exposure control by 0.1.

If you take a look at the histogram you can see that we spread the values of the highlights and whites out and increased contrast within that area. This puts some highlights in the image closer together than they were and some farther apart, while not changing the overall contrast of the image. The result is best evaluated by looking at the image itself (as usual). The point is not which one is "better" but rather which rendition best suits your vision of a particular scene. This exercise of looking at distribution of values within the highlights and whites is particularly important in printed images. **A little bit of ink density goes a very long way on white paper.** In general most people's perception of on-screen images in the extreme highlights as opposed to paper is that they will appear more compressed on-screen then on paper. That is almost the opposite of the way lower mid-tones and shadows are perceived on screen vs on paper. Fine tuning tonal distribution within highlight values on an eventual print is probably less important for on-screen viewing but critical for prints.

Lightroom Catalog.lrcat - Adobe Photoshop Lightroom - Develop
Navigator
FIT FILL 1:1 1:4
Presets
Snapshots
History
Highlights +60 -40
Highlights -100 -100
White Clipping +1 82
White Clipping +1 81
White Clipping -5 80
White Clipping +15 85
Exposure -0.33 1.32
Exposure -0.33 1.65
Highlights +100 0
Highlights 0 -100
Highlights 0 -100
Highlights -20 -100
Highlights -20 -80
Highlights -60 -60
Highlights +20 0
Highlights +60 -20
Highlights -20 -80
Highlights -20 -60
Highlights -20 -40
Highlights -20 -20
White Clipping -5 70
White Clipping -5 75
White Clipping +20 80
White Clipping +60 60
Exposure -0.33 1.98
Exposure -0.33 2.31
Exposure +0.33 2.64
Convert to Black & White Yes
Exposure +2.31 2.31
Paste Settings
Reset Settings
Create Virtual Copy (6/12/17 1:30:20 PM)
Collections
Filter Collections
Sinai Hospital
Printed Large 47
Smart Collections
Printed images 119
Printed images(c... 119
Printed images 119
Printing 0
Printing-ebook-case-s... 21
temporary-print-demo 6
To Print(2) 1
yukon-2016-prints 0
Jim-print 11
Norm Print 12
other-peoples-prints 2
Print-sand dunes 2
Copy...
Paste
DSC_3379.NEF • Copy 12
1/400 sec at ƒ / 16, ISO 200
70 mm (24.0-70.0 mm f/2.8)
Soft Proofing
Histogram
R 94.4 G 94.4 B 94.4 %
Original Photo
Basic
Treatment : Color Black & White
WB : As Shot
Temp 4,750
Tint +7
Tone Auto
Exposure +2.31
Contrast 0
Highlights 0
Shadows 0
Whites 0
Blacks 0
Presence
Clarity 0
Vibrance 0
Saturation 0
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Previous
Reset

8.2.4

Lightroom Catalog.lrcat - Adobe Photoshop Lightroom - Develop
Navigator
FIT FILL 1:1 1:4
Presets
Snapshots
History
White Clipping +2 78
White Clipping +1 76
White Clipping -5 75
White Clipping +80 80
Exposure -0.66 1.65
Convert to Black & White Yes
Exposure +2.31 2.31
Paste Settings
Reset Settings
Create Virtual Copy (6/12/17 1:30:20 PM)
Collections
Filter Collections
Sinai Hospital
Printed Large 47
Smart Collections
Printed images 119
Printed Images(c... 119
Printed images 119
Printing 0
Printing-ebook-case-s... 21
temporary-print-demo 6
To Print(2) 1
yukon-2016-prints 0
Jim-print 11
Norm Print 12
other-peoples-prints 2
Print-sand dunes 2
Sample Prints 6
Copy...
Paste
DSC_3379.NEF • Copy 12
1/400 sec at ƒ / 16, ISO 200
70 mm (24.0-70.0 mm f/2.8)
Soft Proofing
Histogram
ISO 200 70 mm ƒ / 16 1/400 sec
Original Photo
Basic
Treatment : Color Black & White
WB : As Shot
Temp 4,750
Tint +7
Tone Auto
Exposure +1.65
Contrast 0
Highlights 0
Shadows 0
Whites +78
Blacks 0
Presence
Clarity 0
Vibrance 0
Saturation 0
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Previous
Reset

8.2.5

Lightroom Catalog.lrcat - Adobe Photoshop Lightroom - Develop
Navigator
FIT FILL 1:1 1:4
Presets
Snapshots
History
White Clipping +5 83
Exposure -0.10 1.55
Highlights -100 -100
White Clipping +2 78
White Clipping +1 76
White Clipping -5 75
White Clipping +80 80
Exposure -0.66 1.65
Convert to Black & White Yes
Exposure +2.31 2.31
Paste Settings
Reset Settings
Create Virtual Copy (6/12/17 1:30:20 PM)
Collections
Filter Collections
Sinai Hospital
Printed Large 47
Smart Collections
Printed images 119
Printed images(c... 119
Printed images 119
Printing 0
Printing-ebook-case-s... 21
temporary-print-demo 6
To Print(2) 1
yukon-2016-prints 0
Jim-print 11
Norm Print 12
other-peoples-prints 2
Print-sand dunes 2
Sample Prints 6
Copy...
Paste
DSC_3379.NEF • Copy 12
1/400 sec at ƒ / 16, ISO 200
70 mm (24.0-70.0 mm f/2.8)
Soft Proofing
Histogram
ISO 200 70 mm ƒ / 16 1/400 sec
Original Photo
Basic
Treatment : Color Black & White
WB : As Shot
Temp 4,750
Tint + 7
Tone Auto
Exposure + 1.55
Contrast 0
Highlights – 100
Shadows 0
Whites + 83
Blacks 0
Presence
Clarity 0
Vibrance 0
Saturation 0
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Previous
Reset

8.2.6

Unadjusted proof print & print with adjustments compared

# MUDDY PRINT

A common problem photographers face when printing their images is the dreaded "muddy" print. Here we offer a way to correct for muddiness, using a scene from Dezadeash Lake in Canada's famed Yukon Territory.

Figure 8.3.1 shows a well exposed, strait out of camera image, with the exception of a minor starting adjustment. Printed strait-up this will result in an extremely muddy print. Figure 8.3.2 increases overall contrast using the Blacks control and Whites control. A similar result can be accomplished by adjusting the end points of the curves control. The result of these simple adjustments looks pretty good on the screen. Left as is most of the foreground will probably turn out too dark in the print and much of the landscape in the distance will most likely still be a little *muddy looking*.

In order to remedy the situation, we're going to need more exposure to bring the foreground up farther into the mid-tones. Adding that will be detrimental to the sky and clouds, reducing the drama in the sky and also blowing out some of the lightest parts of the sky, even though in-camera this image was made with a graduated neutral density filter already darkening the sky and clouds.

Lightroom Catalog.lrcat - Adobe Photoshop Lightroom - Develop
Navigator
FIT
FILL
1:1
1:4
Presets
Snapshots
From Lr mobile
History
Exposure +0.33 0.33
Add Brush Stroke
Update Graduated Filter
Add Graduated Filter
White Clipping +20 60
White Clipping +40 40
Black Clipping -40 -40
Crop Angle -0.36 -0.36
Reset Settings
Create Virtual Copy (6/12/17 1:00:18 PM)
Collections
Filter Collections
Sinai Hospital
Printed Large 47
Smart Collections
Printed images 119
Printed Images(c... 119
Printed images 119
Printing 0
Printing-ebook-case-s... 21
temporary-print-demo 6
To Print(2) 1
yukon-2016-prints 0
Jim-print 11
Norm Print 12
other-peoples-prints 2
Print-sand dunes 2
Sample Prints 6
Copy...
Paste
_LAP1906.NEF • Copy 2
1/13 sec at ƒ / 22, ISO 200
35 mm (17.0-35.0 mm f/2.8)
Soft Proofing
Histogram
ISO 200 35 mm ƒ / 22 1/13 sec
Original Photo
Basic
Treatment : Color Black & White
WB : As Shot
Temp 5,650
Tint −4
Tone Auto
Exposure 0.00
Contrast 0
Highlights 0
Shadows 0
Whites 0
Blacks 0
Presence
Clarity 0
Vibrance 0
Saturation 0
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Previous
Reset

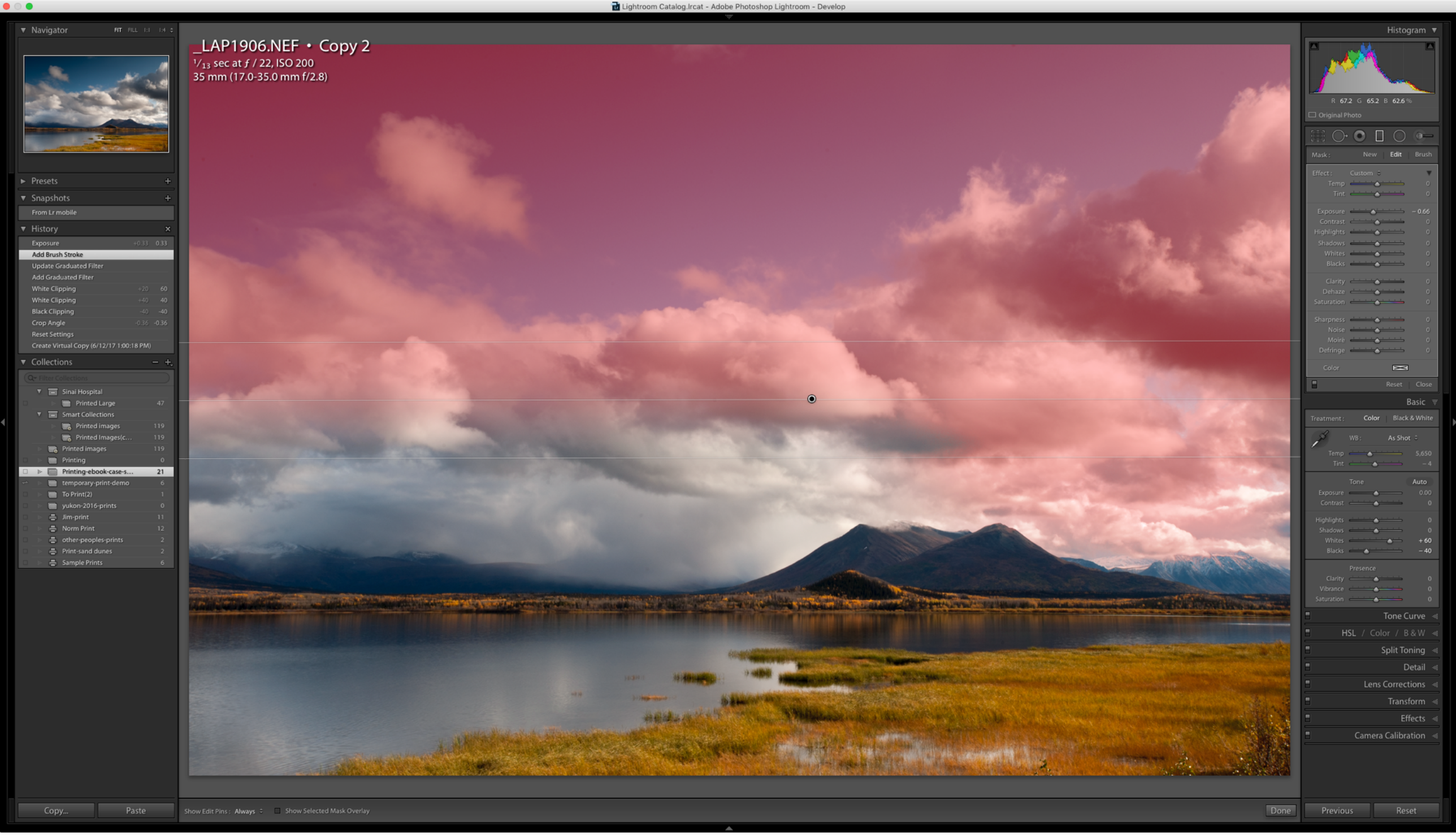
8.3.1

Lightroom Catalog.lrcat - Adobe Photoshop Lightroom - Develop
Navigator
FIT FILL 1:1 1:4
Presets
Snapshots
From Lr mobile
History
Exposure +0.33 0.33
Add Brush Stroke
Update Graduated Filter
Add Graduated Filter
White Clipping +20 60
White Clipping +40 40
Black Clipping -40 -40
Crop Angle -0.36 -0.36
Reset Settings
Create Virtual Copy (6/12/17 1:00:18 PM)
Collections
Sinai Hospital
Printed Large 47
Smart Collections
Printed images 119
Printed Images(c... 119
Printed images 119
Printing 0
Printing-ebook-case-s... 21
temporary-print-demo 6
To Print(2) 1
yukon-2016-prints 0
Jim-print 11
Norm Print 12
other-peoples-prints 2
Print-sand dunes 2
Sample Prints 6
_LAP1906.NEF • Copy 2
1/13 sec at ƒ / 22, ISO 200
35 mm (17.0-35.0 mm f/2.8)
Histogram
ISO 200 35 mm ƒ / 22 1/13 sec
Original Photo
Basic
Treatment : Color Black & White
WB : As Shot
Temp 5,650
Tint – 4
Tone Auto
Exposure 0.00
Contrast 0
Highlights 0
Shadows 0
Whites + 60
Blacks – 40
Presence
Clarity 0
Vibrance 0
Saturation 0
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Copy... Paste
Soft Proofing
Previous Reset

8.3.2

In figure 8.3.3 you can see that the gradient tool was used to subtly bring down the sky and the clouds a bit further. This also helps keep focus on the main area of interest which is the water and distant mountains.

In the last screenshot (figure 8.3.4) we've brought up the overall exposure quite a bit now. The final result will be a print with good contrast and appropriate density in highlights and shadows that shows well. Adjustments don't have to be complicated or extreme to render a great looking print. Simple is usually better and with a few prints under your belt it will be easier and easier to predict what the translation from on-screen transmitted light rendering will look like relative to on paper reflected light renderings.


Lightroom Catalog.lrcat - Adobe Photoshop Lightroom - Develop
Navigator
FIT FILL 1:1 1:4
Presets
Snapshots
From Lr mobile
History
Exposure +0.33 0.33
Add Brush Stroke
Update Graduated Filter
Add Graduated Filter
White Clipping +20 60
White Clipping +40 40
Black Clipping -40 -40
Crop Angle -0.36 -0.36
Reset Settings
Create Virtual Copy (6/12/17 1:00:18 PM)
Collections
Filter Collections
Sinai Hospital
Printed Large 47
Smart Collections
Printed images 119
Printed Images(c... 119
Printed images 119
Printing 0
Printing-ebook-case-s... 21
temporary-print-demo 6
To Print(2) 1
yukon-2016-prints 0
Jim-print 11
Norm Print 12
other-peoples-prints 2
Print-sand dunes 2
Sample Prints 6
Copy...
Paste
_LAP1906.NEF • Copy 2
1/13 sec at f / 22, ISO 200
35 mm (17.0-35.0 mm f/2.8)
Show Edit Pins : Always
Show Selected Mask Overlay
Done
Histogram
R 67.2 G 65.2 B 62.6 %
Original Photo
Mask : New Edit Brush
Effect : Custom
Temp 0
Tint 0
Exposure – 0.66
Contrast 0
Highlights 0
Shadows 0
Whites 0
Blacks 0
Clarity 0
Dehaze 0
Saturation 0
Sharpness 0
Noise 0
Moiré 0
Defringe 0
Color
Reset Close
Basic
Treatment : Color Black & White
WB : As Shot
Temp 5,650
Tint – 4
Tone Auto
Exposure 0.00
Contrast 0
Highlights 0
Shadows 0
Whites + 60
Blacks – 40
Presence
Clarity 0
Vibrance 0
Saturation 0
Tone Curve
HSL / Color / B & W
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Previous
Reset

8.3.3

Lightroom Catalog.lrcat - Adobe Photoshop Lightroom - Develop

**Navigator** FIT FILL 1:1 1:4

**Presets**

**Snapshots**

From Lr mobile

**History**

| | | |
|---|---|---|
| Exposure | +0.33 | 0.33 |
| Add Brush Stroke | | |
| Update Graduated Filter | | |
| Add Graduated Filter | | |
| White Clipping | +20 | 60 |
| White Clipping | +40 | 40 |
| Black Clipping | -40 | -40 |
| Crop Angle | -0.36 | -0.36 |
| Reset Settings | | |
| Create Virtual Copy (6/12/17 1:00:18 PM) | | |

**Collections**

Filter Collections

- Sinai Hospital
  - Printed Large 47
  - Smart Collections
    - Printed images 119
    - Printed Images(c... 119
  - Printed images 119
  - Printing 0
  - Printing-ebook-case-s... 21
  - temporary-print-demo 6
  - To Print(2) 1
  - yukon-2016-prints 0
  - Jim-print 11
  - Norm Print 12
  - other-peoples-prints 2
  - Print-sand dunes 2
  - Sample Prints 6

Copy... Paste

_LAP1906.NEF • Copy 2

1/13 sec at ƒ / 22, ISO 200

35 mm (17.0-35.0 mm f/2.8)

Soft Proofing

**Histogram**

ISO 200 35 mm ƒ / 22 1/13 sec

Original Photo

**Basic**

Treatment : Color | Black & White

WB : As Shot

Temp 5,650

Tint − 4

Tone Auto

Exposure + 0.33

Contrast 0

Highlights 0

Shadows 0

Whites + 60

Blacks − 40

Presence

Clarity 0

Vibrance 0

Saturation 0

Tone Curve

HSL / Color / B & W

Split Toning

Detail

Lens Corrections

Transform

Effects

Camera Calibration

Previous Reset

Hard proof prior to final print.

# SATURATION/COLOR SEPARATION

We all love our bright saturated colors, especially in colorful landscapes. But, here's the rub — prints are not great at reproducing super bright and super saturated colors. In many cases when making a print that has those super bright, saturated colors the result is less than satisfying as compared to what you are seeing on screen. You might be tempted to keep pushing the saturation and brightness in an effort to somehow get that on-screen look or perhaps what you perceived when standing in front of the scene. The color management process will ensure that these colors will be translated into the acceptable ranges for the paper. In many cases this will produce an acceptable print. In other cases you may produce a more pleasing print with manual adjustments to the image in areas that are not producing a print that matches up with your perception of the scene.

In figure 8.4.2 I've activated *soft proofing* in the Develop module with the paper type set to Moab Juniper Baryta printed on the Canon Pro-1000, a great combination for colorful landscapes. That paper-printer combination is capable of reproducing fantastic color. You can see part of the problem with the *output gamut warning* activated. Those areas that are now highlighted in red are indicating that the output cannot reproduce the combination of hue, saturation, and brightness that's in the photo.

Lightroom Catalog.lrcat - Adobe Photoshop Lightroom - Develop
Navigator
FIT FILL 1:1 1:4
Presets
Snapshots
From Lr mobile
History
Saturation +20 20
Point Curve: Custom
Point Curve: Custom
Point Curve: Custom
Point Curve: Custom
Point Curve: Custom
Point Curve: Custom
Exposure +0.33 1.32
Black Clipping -20 -20
Highlights -20 0
Highlights +20 20
Contrast +40 40
Exposure +0.33 0.99
Exposure +0.33 0.66
Exposure +0.33 0.33
Paste Settings
Reset Settings
Create Virtual Copy (6/13/17 11:34:36 AM)
Collections
Filter Collections
Sinai Hospital
Printed Large 47
Smart Collections
Printed images 119
Printed images(c... 119
Printed images 119
Printing 0
Printing-ebook-case-s... 27
temporary-print-demo 6
To Print(2) 1
yukon-2016-prints 0
Jim-print 11
Norm Print 12
other-peoples-prints 2
Print-sand dunes 2
Sample Prints 6
Copy...
Paste
A8397505.3FR • Copy 8
0.7 sec at ƒ / 22, ISO 100
28 mm (HCD 28)
Soft Proofing
Histogram
Shadows 0
Original Photo
Basic
Tone Curve
HSL / Color / B&W
Hue Saturation Luminance All
Saturation
Red 0
Orange 0
Yellow 0
Green 0
Aqua 0
Blue 0
Purple 0
Magenta 0
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Previous
Reset

8.4.1

Lightroom Catalog.lrcat - Adobe Photoshop Lightroom - Develop
Navigator
FIT FILL 1:1 1:4
Presets
Snapshots
From Lr mobile
History
Saturation +20 20
Point Curve: Custom
Point Curve: Custom
Point Curve: Custom
Point Curve: Custom
Point Curve: Custom
Point Curve: Custom
Exposure +0.33 1.32
Black Clipping -20 -20
Highlights -20 0
Highlights +20 20
Contrast +40 40
Exposure +0.33 0.99
Exposure +0.33 0.66
Exposure +0.33 0.33
Paste Settings
Reset Settings
Create Virtual Copy (6/13/17 11:34:36 AM)
Collections
Filter Collections
Sinai Hospital
Printed Large 47
Smart Collections
Printed images 119
Printed Images(c... 119
Printed images 119
Printing 0
Printing-ebook-case-s... 27
temporary-print-demo 6
To Print(2) 1
yukon-2016-prints 0
Jim-print 11
Norm Print 12
other-peoples-prints 2
Print-sand dunes 2
Sample Prints 6
A8397505.3FR • Copy 8
0.7 sec at ƒ / 22, ISO 100
28 mm (HCD 28)
Proof Preview
Soft Proofing
R 8 G 32 B 1
Original Photo
Proof Settings :
Profile : MOAB Juniper Baryta Pro-1...
Intent : Perceptual Relative
Simulate Paper & Ink
Basic
Tone Curve
HSL / Color / B&W
Hue Saturation Luminance All
Saturation
Red 0
Orange 0
Yellow 0
Green 0
Aqua 0
Blue 0
Purple 0
Magenta 0
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration
Copy... Paste
Soft Proofing
Previous Reset

8.4.2

With this particular example you can also see that the only areas where we really have a potential issue are in those bright, saturated orange-reds. The deep greens, blues, and blue-greens will reproduce well. Instead of reducing contrast, exposure, or saturation globally it looks like a better path is to work on just those orange colors. The HSL/Color panel is the perfect place to address this type of issue.

Looking at figure 8.4.3, you can see I've left the soft proofing active while making adjustments. As soon as you try to make an adjustment with soft proofing active, Lightroom will pop up a dialog box giving you a choice to undo the adjustment, "make this a proof copy" — which means go ahead and allow adjustments to the image you are soft proofing, or make a virtual copy and keep on going. Making a virtual copy can be useful if the image you are working on looks great on-screen and you want to keep it as-is.

Looking at the HSL/Color adjustments I made, you can see I've reduced both saturation and luminance by a significant amount. Usually it's a combination of both of these that will get you to a print that has the impression you're looking for. I left those output gamma warnings on to see exactly where I was in terms of getting those oranges into a range that can be reproduced on the paper/printer combination I'm using. There are a couple of tiny areas of red warnings left. Figure 8.4.4 shows both the output and screen gamut warnings turned on.

To revisit soft proofing and those warnings for a moment, recall that the monitor gamut warnings that show up as blue areas are indicating that your monitor cannot show exactly what colors the paper/printer output are going to produce. In this particular context the few red areas in the absolute brightest orange areas are indicating that those are still not able to be reproduced on the paper, but as you can see the vast majority of those areas are now in the paper/printer capability range. That wide swath of blue means we were successful in shifting those areas into the paper/printer range but those colors that we will output cannot be accurately soft-proofed. This is not a bad thing, we're taking better advantage of what the paper is capable of but the monitor in use cannot show.

Lightroom Catalog.lrcat - Adobe Photoshop Lightroom - Develop
Navigator
FIT FILL 1:1 1:4
Presets
Snapshots
From Lr mobile
History
Orange Saturation Shift +5 -30
Orange Saturation Shift -10 -35
Orange Saturation Shift -5 -25
Red Saturation Shift +20 0
Red Saturation Shift -20 -20
Orange Luminance Shift -5 -25
Orange Luminance Shift -20 -20
Orange Saturation Shift -20 -20
Create Virtual Copy (6/13/17 11:37:52 AM)
Collections
Filter Collections
Sinai Hospital
Printed Large 47
Smart Collections
Printed images 119
Printed images(c... 119
Printed images 119
Printing 0
Printing-ebook-case-s... 27
temporary-print-demo 6
To Print(2) 1
yukon-2016-prints 0
Jim-print 11
Norm Print 12
other-peoples-prints 2
Print-sand dunes 2
Sample Prints 6
Copy...
Paste
A8397505.3FR • Copy 9
0.7 sec at ƒ / 22, ISO 100
28 mm (HCD 28)
Proof Preview
Soft Proofing
Soft Proofing
Previous
Reset
ISO 100 28 mm ƒ / 22 0.7 sec
Original Photo
Proof Settings :
Profile : MOAB Juniper Baryta Pro-1...
Intent : Perceptual Relative
Simulate Paper & Ink
Basic
Tone Curve
HSL / Color / B & W
Hue Saturation Luminance All
Hue
Red 0
Orange 0
Yellow 0
Green 0
Aqua 0
Blue 0
Purple 0
Magenta 0
Saturation
Red 0
Orange -30
Yellow 0
Green 0
Aqua 0
Blue 0
Purple 0
Magenta 0
Luminance
Red 0
Orange -25
Yellow 0
Green 0
Aqua 0
Blue 0
Purple 0
Magenta 0
Split Toning
Detail
Lens Corrections
Transform
Effects
Camera Calibration

8.4.3

Lightroom Catalog.lrcat - Adobe Photoshop Lightroom - Develop

Navigator FIT FILL 1:1 1:4

Presets

Snapshots

From Lr mobile

History

| | | |
|---|---|---|
| Orange Saturation Shift | +5 | -30 |
| Orange Saturation Shift | -10 | -35 |
| Orange Saturation Shift | -5 | -25 |
| Red Saturation Shift | +20 | 0 |
| Red Saturation Shift | -20 | -20 |
| Orange Luminance Shift | -5 | -25 |
| Orange Luminance Shift | -20 | -20 |
| Orange Saturation Shift | -20 | -20 |
| Create Virtual Copy (6/13/17 11:37:52 AM) | | |

Collections

Filter Collections

- Sinai Hospital
  - Printed Large 47
  - Smart Collections
    - Printed images 119
    - Printed Images(c... 119
  - Printed images 119
  - Printing 0
  - Printing-ebook-case-s... 27
  - temporary-print-demo 6
  - To Print(2) 1
  - yukon-2016-prints 0
  - Jim-print 11
  - Norm Print 12
  - other-peoples-prints 2
  - Print-sand dunes 2
  - Sample Prints 6

Copy... Paste

A8397505.3FR • Copy 9

0.7 sec at ƒ / 22, ISO 100

28 mm (HCD 28)

Proof Preview

★★★★★ Soft Proofing

Soft Proofing

R 101 G 95 B 138

Original Photo

Proof Settings :

Profile : MOAB Juniper Baryta Pro-1...

Intent : Perceptual | Relative

Simulate Paper & Ink

Basic

Tone Curve

HSL / Color / B & W

Hue | Saturation | Luminance | All

Hue

| | |
|---|---|
| Red | 0 |
| Orange | 0 |
| Yellow | 0 |
| Green | 0 |
| Aqua | 0 |
| Blue | 0 |
| Purple | 0 |
| Magenta | 0 |

Saturation

| | |
|---|---|
| Red | 0 |
| Orange | – 30 |
| Yellow | 0 |
| Green | 0 |
| Aqua | 0 |
| Blue | 0 |
| Purple | 0 |
| Magenta | 0 |

Luminance

| | |
|---|---|
| Red | 0 |
| Orange | – 25 |
| Yellow | 0 |
| Green | 0 |
| Aqua | 0 |
| Blue | 0 |
| Purple | 0 |
| Magenta | 0 |

Split Toning

Detail

Lens Corrections

Transform

Effects

Camera Calibration

Previous Reset

8.4.4

Detail of grain treatment on ultra-large print

# PRINT SIZE & IMAGE TREATMENT

There are many cases where the subject matter contained in a print or the viewing circumstances call for a large or very large print size. Unfortunately the actual photograph you have may not have the resolution required to produce a gigantic print with pristine detail. The realities are that images need to be cropped, yet conditions while taking the photo, or even technological limitations, will result in compromises. If you remember the examples in a previous section that we used for calculating DPI, no matter what camera you used it's impossible to produce single shots that will give you 300 DPI, let alone anything higher, at ultra large print sizes.

We had a series of wildlife images that called for very large prints that I shot in a wide variety of conditions using various cameras ranging from 12 megapixels to 50 megapixels over the course of a decade. We knew that we liked the overall feel of producing the series in black & white. We also determined that we loved a square crop and frame across the series as a whole. Not every single image in the series had enough resolution to produce uniformly super fine detail at 4 ft x 4 ft display sizes! This was especially true given that we were going to be cropping 35% from the image going from 3:2 to 1:1.

Looking at the nature of the subject matter and our selection of images, it was clear that the story being told was not at all about min-

## Final print treatment

ute detail. We decided that instead of trying to squeeze every last detail out of the images we had we'd go in the opposite direction and actually get rid of a lot of the fine detail by giving it a look similar to what high speed film shot with 6 cm x 6 cm film would have had if enlarged to a high degree. The result in effect was replacing very fine detail in some of our high-megapixel shots with film grain. In other cases where we had plenty of sharpness but didn't have the same level of detail we'd substitute simulated film grain instead. Film grain simulation is located in the Develop Module under the "Effects" panel.

The result was not only a series of uniquely beautiful wildlife photographs but also ones that allowed us to print massively large prints that had a consistent look and also looked great even when viewed up close and personal.

9

# PRINTERS

# PRINTERS

In recent years there has been a proliferation of high quality printers. As a former wet darkroom printmaker, I am nothing short of astounded by the fantastic job that printers today do. Their precision is truly a feat of engineering, laying down drops of ink so tiny, it's impossible to figure out the transitions in color gradations.

The three major printer manufacturers today are Canon, Epson and, to a lesser extent, HP. We have owned all three brands and have settled on Canon for their ease of use, legendary quality and customer service. Since printers are continuously being upgraded, we will not fall into the trap of reviewing individual printers. Instead, we will make recommendations to you based on the type of printing in which you see yourself immersed for the foreseeable future. But first, some principles.

An important consideration in printer choice is the ability to switch between matte and glossy media quickly without the need to flush the type of black ink in use. Printers that use one head for both matte and glossy/photo black inks require flushing the ink when a different media is in use. This takes time and wastes ink and money. Canon pigment printers of recent memory have never required flushing black ink when changing paper types. If you plan to print on both matte and glossy papers interchangeably this might be the most important criteria.

Our current workhorse printer is the Canon imagePROGRAF PRO-1000. We use this printer for all of our sheet paper printing up to 17"x25". We've never experienced jams or misfeeds from vellum thru very heavy fine-art papers. On one recent occasion we used the Pro-1000 to produce 200+ prints in one evening with not one problem.

An example of a feature important to us is the double roller feature that Canon and  Epson offer. We own the Canon imagePROGRAF PRO-2000 (24"wide) and the Canon imagePROGRAF PRO-4000 (44" wide), each with the second roller option. We find this feature incredibly useful in that we can mount two different papers, for example a matte paper and a glossy, on the printers at the same time. Whenever we want to print on one paper versus another, we just indicate that in the Print module of Lightroom. This eliminates having to shift rolls, which is a major source of irritation if you print a lot. In our teaching workshops and fine art print installations it saves us a huge amount of time and inconvenience.

# ESSENTIAL PRINCIPLES

**Buy for Now.** We believe that you should anticipate your printing needs up to a year or two into the future, but no further. Ten years ago we would not have said that, but with the rapid and constant advancement in printing technology, we would urge you not to fool yourself into thinking that whatever you choose to buy today will be your final choice. When that newest technology hits the market, quickly sell your old printer and upgrade.

**Upsize.** Our next principal is to buy a size larger printer than you initially think you will need. Buy a fine art printer that can print at least 13”-wide, such as the Canon imagePROGRAF PRO-1. You will be surprised at how quickly your appetite will be whetted for larger prints.

**Think Ink.** Here’s the dirty secret of the industry. You are not buying a printer. Instead you are voluntarily signing up to be a prisoner of the manufacturer’s never-ending supply of expensive inks. Plan for this in advance so you are not surprised. We figure that our large format 44-inch wide printer cost us less than half what it actually cost the manufacturer to produce it. But just one set of inks costs 50% of the cost of the printer! Multiply that by two every year if you are a heavy user and you can see where the manufacturer’s profit is.

One more suggestion: If you plan to print irregularly and in small amounts, don’t buy the largest ink cartridges available for your model. Yes, you save money per print, but inks expire and that may affect print quality and/or your warranty if you continue to use them past the expiration date.

**Use Original Ink.** If you are serious about your photography and your printmaking, you should commit to sticking to the manufacturer’s inks, even though inks are unnecessarily expensive (in our opinions). We say this for several reasons. First, consistency is critical to be sure that you are doing things correctly as you climb the learning curve. Second, off-brand inks vary tremendously in quality, color consistency, and compatibility with your printer. We know this first-hand, as we have experimented with them. Third, use of an off-brand ink will void your warranty. We have experimented with off-brand inks a few times and are committed to never again having an off-brand ink flow through the veins of our printing operation.

**Avoid Bargains.** We urge you to stay away from bargain-basement printer come-on offers. You know, the ones where you get a color printer by just buying a laptop. If you want to do real photographic printmaking, stick to the established manufacturers and their advanced amateur or pro machines. The inks are better, the machines more color accurate and the time spent getting good quality prints seriously reduced. This is not to say that you should avoid snagging a great sale. Also, there are some less expensive dye-based printers that are quite good. They have a larger color gamut and produce great photos. Just realize that these prints are not archival, although they can easily last 20 years under ideal conditions.

**Adopt the Proper Mindset.** Know before you buy that fine art printing is not like setting your camera on Auto and you're done with it. Printing can be frustrating at times. But if you go into it knowing that, and are willing to experiment and learn, you will be fine. Perfect a basic workflow before trying new techniques. Realize that you will waste lots of paper and ink when you start. Take a deep breath every now and then. Keep printing and please take time to savor your masterpieces.

**Take a Workshop.** Self-serving as this may sound (we offer small group fine art print workshops several times each year), our clients will tell you that the most efficient way to climb the learning curve is to participate in a fine art printing workshop. You will learn important concepts, tips and techniques that will make your print-making easier and more in line with your artistic vision.

## BEGINNERS

If you are new to printing we suggest that you consider a good printer that enables you to create up to 13" x 19" prints. These printers have multiple ink cartridges, so that you have the capability of producing an amazingly wide range of colors and tonality. They are also quite compact nowadays and easily fit on a desk or small print stand. You might be initially amazed at how low the price is for such a sophisticated piece of equipment. Know in advance that the way the manufacturers make their money is by selling you inks at ridiculously high prices.

## INTERMEDIATE

As you climb the capture and printing learning curve and produce consistently great prints, you will undoubtedly want to print larger ones for display. At this point we recommend you look into printers capable of prints up to 17" wide. A 17" x 22" print is quite big and suitable for large living spaces. A framed 17" x 22" print will be around 27" x 32", including the mat and frame. That's a good deal of wall real estate. And if you create panoramic images, a print can be three or more feet wide!

Still, for most people, desk real estate is a major consideration. Printer manufacturers have adapted to this reality and the newer 17" printers are not much larger than the 13" wide printers. Our newest Canon 17" printer, the imagePROGRAF PRO-1000, for a while sat next to our older 13" Canon Pro-1 and the size difference was negligible. Today we have two Canon Pro-1000 machines, a Canon 24" printer and a Canon 44" printer.

Amazingly, the prices on 17" printers have actually gone down. The field of fine art printing was amazed at the sub-*$1*,300 price for the Canon Pro-1000.

## ADVANCED AMATEURS AND PRO-LEVEL

For the experienced printmaker, a 24" printer is like a dream. How can you beat huge 24" x 36" prints? Matted and framed they are humongous! Prices have dropped on these monsters in recent years as the technology has matured, so they can seem quite attractive.

There are drawbacks, however. Real estate now moves from a desktop to a floor-hogging stand-alone. Inks get very pricey. Storing large sheets of paper and/or rolls can be an issue. Mistakes are expensive and can cause ulcers. But, if you are at this stage of your printmaking, nothing is going to dissuade you anyway, right?

We believe that stepping up to a 44" printer typically does not make sense for most advanced amateurs and even some pros. One set of inks for our 44" printer sets us back $2,300. Ouch! Since I have an extensive travel schedule, we have actually had ink cartridges expire on us, which makes me quite difficult to live with when that happens. But, once again, if you are printing at this level, selling large prints or doing fine art printing for other photographers, then you know it and you will not be dissuaded from buying one.

The only two real players in the 44" or 60" field are Canon and Epson. Now your real estate needs become a major consideration as these machines are as big as tanning beds. Rolls of 44" paper are heavy and take up a huge amount of room, too. They must also be stored under appropriate environmental conditions.

**TIP:** It's wise to purchase a service contract with your 24", 44" or 60" printers since you are not going to carry them under your arm to your nearest service center.

# CHOOSING FINE ART PAPERS

# CHOOSING FINE ART PAPERS

This is an area where our passion surely shows. Plainly and simply, we love fine art photo papers. We love the way the best ones look and how an image responds to their glossy, semi-gloss, satin, and matte surfaces. We also love the feel of fine art papers. Some are thick and hefty, others thin and elegant. Each paper has its signature texture which differentiates it from its competitors.

The choices of papers has proliferated as manufacturers strive to offer competitive lines. As we said in the introduction, we favor those papers made by Moab (www.moabpaper.com), but we also love some papers made by Hahnemuhle and Canson. Canon and Epson offer their own line of papers, some of them quite good, although they are actually manufactured by others.

Most paper manufacturers offer a sample box of their papers. Order one and get some initial impressions on which might fit your artistic vision. After initial experimentation, we strongly recommend that you limit yourself to just a few papers. Learn their characteristics well. See how they handle different kinds of images. See what they look like behind glass. Once you understand the qualities of those papers, you should expand to others as you see fit. Experimentation can lead to delightful new discoveries and a greater sense of satisfaction with your art.

# THE BASICS

There are basically three types of paper treatments and you will eventually choose the ones you prefer based on the images you wish to print.

## GLOSSY

Glossy papers are coated to create a finished print that is reflective. The degree of glossiness varies with the manufacturer and even between different glossy papers within a company's product line.

Glossy papers tend to work best with color images that have lots of contrast, such as colorful cars, foods, certain landscapes and even wildlife. They also work well with fashion images. Some glossy papers are resin coated.

The primary drawback to glossy papers is also part of its strength, that is its reflectivity. If displayed without attention to proper artificial lighting, it can be very distracting due to reflections. Even natural light from windows, for example, can wreak havoc on the viewing experience. When you frame a glossy print behind glass, you are magnifying the reflectivity problem.

## SEMI-GLOSS AND SATIN

Semi-gloss papers have a more muted look than glossy papers. In my own style of photography, if I want to use a glossy-type paper at all, I tend to gravitate to semi-gloss rather than gloss papers. Our favorite papers in this category are Moab's Juniper Rag and Museo's Silver Rag. We turn to these papers frequently, especially with my images that have a wide dynamic range, lots of color, and crisp focus throughout.

## MATTE

In general, matte papers are, quite frankly, our favorites. That is because they work very well with black and white images, which we especially enjoy printing. But there are many of my color images that I just love on matte papers for the muted, ethereal, and painterly look they lend to the scene.

Some of our favorite matte papers include Moab Entrada, either Natural or Bright. Moab recently scored a huge hit with the release of their Entrada Rag Textured, a paper that we are admittedly gaga over.

Another aspect of matte papers is that most are made with cotton fiber, so they have a great hand feel. The roughness in the paper is called toothiness. We especially like Hahnemuhle's German Etching and William Turner papers because of their toothy feel, which translates into some terrific black and white prints.

Some papers are produced with deckled edges, which make for a really exciting presentation in your home, office or gallery exhibition.

## PAPER WEIGHT

The weight (somewhat related to thickness), of photographic papers is represented as its GSM rating. The higher the number, the thicker the paper. Most photographic papers range from 100 to 325 GSM.

Many beginners and intermediate print makers believe that a higher GSM paper is "better", but that isn't necessarily true. If, for example, you want to mount print on Gatorboard, a 300 GSM paper might actually work against you. It may resist laying down properly and adhering well. In our studio, if we will be mounting Moab Entrada Natural on Gatorboard for an exhibit, we use their 190 GSM paper, rather than their 300 GSM of the same paper.

Of course a higher GSM paper, especially if it is a textured matte paper, has hard-to-describe, but nearly magical, hand feel. That is why most professionals prefer higher GSM papers when people will be handling their prints, as in a professional portfolio. Higher GSM papers also make sense if you are printing your own greeting cards.

## SPECIALTY PAPERS

There are dozens, perhaps hundreds, of specialty papers in the fine art paper marketplace. They include paper made from bamboo, rice, sugar cane and other plant materials. Japanese manufacturers have always produced the finest rice papers, but other manufacturers around the world also offer their own takeoffs on rice papers. These papers are even more expensive than mainstream fine art papers. We recommend that you first master some of the basic principles of printmaking before attempting to use highly specialized papers.

## WALLPAPERS

Although we are not recommending specialty wallpapers as fine art papers, the truth is that lots of high quality images are being done on wallpaper media for huge displays. We have produced 30-foot long panoramic images on wallpaper for hospitals and offices and no one could argue their dynamic impact when walking into a room.

Printing wallpapers does take some experience, especially if you plan to overlap the seams to create perfect matches. In this case we will take the image into Photoshop to make sure that all measurements are exact.

Wallpapers should be double-coated after printing and drying to resist fingerprints and dirt. We always allow our wallpapers to dry and outgas for a full day before coating. We then lay the wallpaper on a long table and give them two coats of a fixative. We allow the wallpaper to dry for 24 hours between coats.

## WHAT IS D-MAX?

When purchasing papers you will see the term D-Max bandied about. D-Max is the term used to describe a paper's ability to render blacks. A paper with a relatively high D-Max is able to reproduce deep blacks, which tends to add a richness to a scene. But D-Max is not the be-all-end-all to choosing a paper. There are many other considerations to take into account when choosing fine art papers,

including cost, end use, the specific scene and other considerations. Again, you will need to experiment with many different paper types to get a feel for how D-Max might affect your favorite images.

# CHOOSING A PAPER/MATERIAL

What is always in the top three questions asked when discussing printing? Glossy vs. Matte. I have a suspicion that as far back as cave drawings some form of this debate has raged and obviously has never been answered. The truth is for the vast majority of pictures the answer is either, as in either surface will work fine and it mostly comes down to personal preference. Which do you like better? What mood are you in today?

With that out of the way there are some general characteristics that come into play and need to be considered when making a choice. In no particular order here are a few facts, personal impressions, tendencies, observations, and ephemera from a combined 50+ years of choosing between matte and glossy papers for photographic display.

Is the print going to go behind glass? If so you'll see less of a difference between the two. In fact if one of the reasons you're choosing a particular matte paper is it's unique and beautiful surface texture you'll probably not see that behind glass.

Anything on the glossy side of the great divide is almost always going to have more contrast and give a snappier feel than anything matte. The blacks are blacker and typically the whites might be whiter but even if they aren't technically brighter they feel brighter. At

first glance almost all cases people will choose glossy over matte if side-by-side. The corollary is that you might want the snappiest, most glossy, maybe even metallic if your goal is to grab attention real quick. On the other hand who displays two identical prints next to each other one on gloss, one on matte? So… don't worry; your viewer won't have the comparison. Corollary #2 — don't mix surfaces on the same project in the same display space (heck probably not a great idea to have vastly different materials of completely different subject matter in the same context anyway).

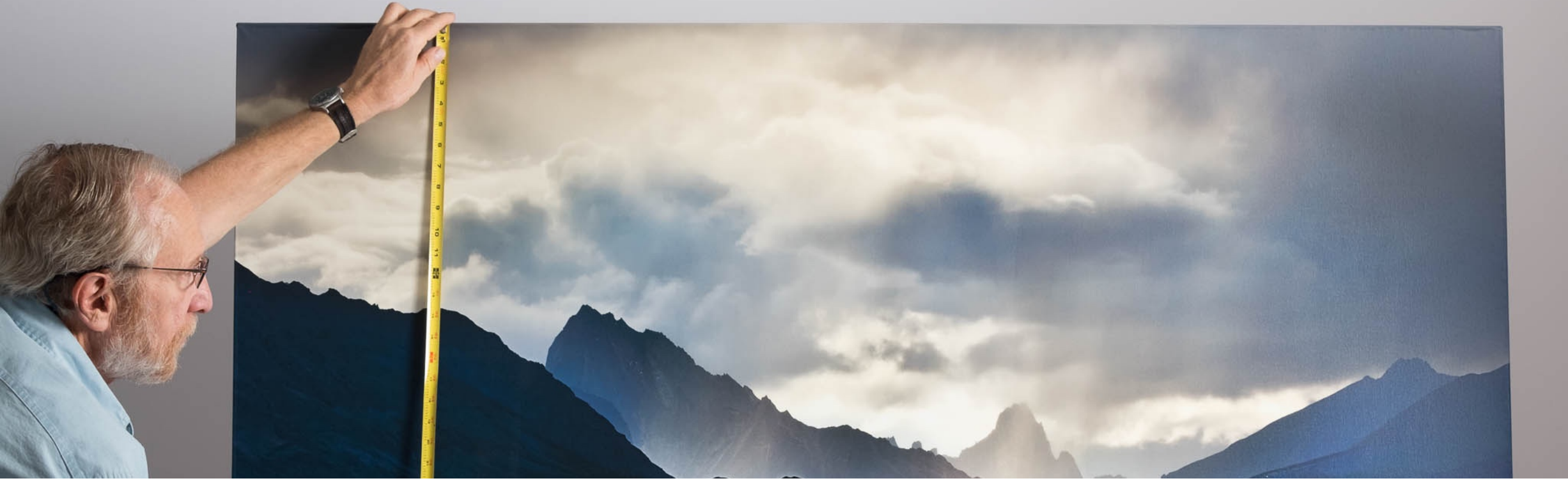
If first prize goes to glossy for its instant first glance impression, the prize for endurance has to go to matte. Overall I find that matte paper is something I rather live with up on the wall over the long-haul for most of my personal photography. Then again I like quiet pictures.

If there's a lot of random light hitting prints from all sorts of oblique angles matte papers tend to show better in many display circumstances. By show better I mean for people actually looking at the picture, as there are no distracting reflections. Given the choice and without a lot of control over the lighting in an area the picture will be displayed, I'll choose matte every time.

Matte papers generally have far more variety in choice of surface texture from smooth to outright toothy. When choosing a matte paper the next critical choice is definitely which particular surface fits best with the subject matter and the feel of the work. If the prints are meant to be handled like loose prints in a portfolio I feel super heavyweight matte paper feels better in the hand than glossy.

Even though I feel the overall diversity in surfaces with matte papers is greater there's also been an explosion of surface variations in papers that fall on the glossy side as well. I'll divide these into three arbitrary categories to simplify the overall choices. There's super-shiny mirror-like surface papers that look more like plastic than paper. Within the mirror-like papers generally you'll have the metallic base and the white base. On the rare occasion I feel that I want something loud with a mirror-like surface I'll go all the way and choose a metallic.

On the other end of the glossy spectrum you've got the luster or pearl or whatever the word a particular brand might use. I don't use these at all. Most of the type of paper I'm talking about also comes off as plastic and has a very even pattern with artificial looking texture. In my opinion the sweet spot for glossy papers is the space in the middle of those two extremes. There are a lot of different names for that middle ground, semi-gloss, soft-gloss, etc. Most of the glossy surfaces I prefer resemble black and white fiber gloss papers used in the darkroom that were air dried. They don't have a surface that stands out in any way, my favorite papers have the same random surface texture that was typical of air dried black and white fiber gloss. Typically these papers are available with base colors ranging from natural to bright white.



Les measuring 4ft x 6ft canvas before installation.

# CANVAS

In a previous case study of a wildlife series, I walked you thru a thought process that in effect normalized a lot of images taken over a long period of time with many cameras and under many circumstances. The intent was to print both small and very large without calling attention to the varying degrees of detail (or lack of detail) available in those diverse RAW files. It just happened that a grainy enlarged film look was perfect for the feel we wanted in Les' prints. There are many cases where that kind of treatment would not be at all appropriate or enhance the overall feel you may be going for.

Canvas is not the printing material one would use to maximize detail in a high resolution photo. In fact many printer drivers will force *"low quality"* output at the printers lowest resolution when canvas is selected as the paper type. In practice it's probably impossible to get a "real" (as measured) 100DPI output resolution on any type of canvas material no matter how many actual pixels you send to the printer for a given print size.

Turning this fact around, and looking at it as a benefit instead of a drawback, we could have accomplished our goal in the wildlife example by choosing canvas instead. Typically we use canvas as an output material for color images that we print oversized. We've made 6 ft x 9 ft canvas murals from 12 megapixel files that look great. Again the size will ultimately be dictated by the specific image in

question as well as the typical viewing distance. In cases where you've got a great image with outstanding color where you'd like a very large print size that will also be viewed at fairly close distances, canvas can be a great choice.

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# DISPLAY OPTIONS

## DISPLAY OPTIONS

Today there is such a profusion of display options, it would take an encyclopedia to cover them all. New display options are coming on the market every year. In the past two decades we have seen the advent of face-mounted plexiglas, aluminum prints, electronic wall display systems, glass prints, backlit prints, and more. We will focus here on some of the most popular artistic displays for your prints.

## DRY MOUNTS

The simplest way to display your prints today is by mounting them on a rigid backing. While many people mount their prints on inexpensive foam board, available at art supply chain stores, foam board warps. For that reason we recommend you mount your prints on Gatorboard, which maintains its flat and rigid structure.

We like dry mounts for their ease of construction and their clean presentation. If you must put together a simple exhibit of your work, or wish to add some decor to your house, consider dry mounts as part of your mix. There are many videos online that describe the process of making them.

However, one must be careful with the selection of adhesives, as some can bleed through the print and others contain acids that can eventually degrade the paper. Only use an acid-free adhesive to achieve some highly creative effects.

Rather than use an elaborate hanging system for our dry mounts, we just cut a scrap piece of Gatorboard to use as a backing. We then mount another scrap piece to serve as a standoff from the wall. This standoff adds depth to the image and makes hanging it a breeze.

With the advent of high capacity acid-free adhesives, prints can be mounted on a variety of substrates, from wood to metal to plastic. And, artists are doing just that! Several companies offer Gatorboard, boxes and other framing with adhesive already applied. You simply peel and affix your print, as in these examples.

Peel & affix prints

# TRADITIONAL FRAMED PRINTS

We have already spoken about the wide range of fine art photographic papers available today. In our opinions, there is nothing that equals the clean, classic (and classy) look of a drop-dead image on fine art paper behind glass and cleanly framed.

Typically, the print is set behind a single, double or even triple mat, which gives it an even classier appearance. Placing the print and mat behind glass creates an elegant, traditional presentation. You also do not need to use a spray fixative to protect the print when it is housed behind glass.

We always recommend that you consider using museum quality glass for your framed prints. This glass adds ultraviolet light protection, in addition to dust protection. Assuming you have printed on fine art, archival paper, you will have a permanent work of art you can be proud of.

Matted & framed traditional print

# FACE-MOUNTED PLEXIGLAS

Face-Mounted Plexiglas (FMP) is a very popular display medium for high-end installations in offices, hospitals, and upscale homes. By placing a print behind Plexiglas, it adds a certain perception of depth that is quite attractive and is a great addition to modern home or office.

However, Plexiglas has drawbacks. First, you usually cannot print the image yourself. Instead, a print known as a C-Print is made by a commercial lab. The C-Print is quite smooth and adheres tightly to the Plexiglas with no bubbles. Our studio produces large FMP installations for our clients, but they are manufactured by an outside lab under our careful supervision. If you are thinking of exhibiting your work behind Plexiglas, make sure that the lab you hire uses top quality Plexiglas with polished edges. There are many types of Plexiglas on the market today, so do your research before committing.

FMPs can be customized, based on home or office decor and budget. The most basic FMP uses a single sheet, usually 1/8” thick for small prints (up to 16 x 20”) and 1/4” thick for larger pieces. FMPs can get quite elaborate. You can plan double-mounted FMP displays, where the FMP image is mounted on a base layer of Plexiglas, giving a three-dimensional look. We have

Face-mounted plexiglas

even designed 1/4” triptych FMPs mounted to a 1/2” base sheet of plexiglas that measures 4’ x 12’. Plexiglas can also be bent to accommodate a curved wall.

With more sophisticated FMP displays, the Plexiglas is raised away from the wall with standoffs. Standoffs come in various finishes and designs.

While FMP displays look fantastic, they are expensive. They are not ideal for high traffic areas where people can touch the display, as they are easily scratched and extremely difficult - almost impossible - to repair.

## ALUMINUM

Aluminum prints have taken off in recent years and for good reason. They are attractive, easy to install and not terribly expensive. Aluminum prints usually have to be done by a commercial lab, but some professional photographers can print smaller sizes and then coat them using a machine that applies a heat- or pressure-activated plastic film.

Aluminum prints come in various surfaces, including glossy, semi-gloss and matte. They can be cleaned with a supplied fluid and soft cloth.

Aluminum print (white surface)

# CANVAS

Canvas prints are wildly popular today, and for good reason. They are less expensive to frame, there are myriad photographic canvas manufacturers, and they look good. They can also be printed economically at very large sizes.

As with an open framed print, canvas prints must be coated with a fixative to give them some permanence. Once that is done, the canvas can be easily stretched over a frame. It can then be hung as is or embedded in an open frame.

## Oversized 4ft x 6ft canvas

Framed open-faced print (great for matte/textured fine art papers)

## OPEN FRAMED PRINTS

Open-framed prints are a relatively new development in the display world. With this option you simply mount the print on a hard backing, such as Gatorboard and then glue that to a larger piece of Gatorboard that fits the framing exactly.

If you are interested in this display option, here is a link to detailed DIY instructions on how to create an open-framed print.

## FOLIOS

First off, I'll say that we love folios (and portfolio boxes; see below). They are a wonderful way to create an intimate viewing experience. Folio prints are meant to be handled, shared, and viewed again and again.

One of the most enjoyable assets of folio prints is that the viewer actually experiences the tactile sensation of the fine art paper. I can't stress enough how that increases the viewer's enjoyment. For this reason you'll want to use high GSM papers (around 300GSM).

We typically print our folios on 8.5 x 11" paper, with the image printed at 6 x 9". This imparts a classy look and the margins allow for handling (clean hands, please, or else use cotton gloves). Even if a print gets smudged, at this small size reprinting is a cinch.

We also produce folios at 13 x 19", which is as large as we would recommend for this type of display. Any larger and the viewing experience becomes unwieldy and the prints susceptible to damage.

Folios are inexpensive to create but make great gifts. We tend to produce these as themed folios, such as Canadian Landscapes or African Wildlife. However, they do take time to produce, depending on how many prints constitute a folio. We usually limit our folios to 12 images or they become overwhelming for the viewer. The goal is to have your audience appreciate it over and over.

## PORTFOLIO BOXES

Undoubtedly, this is our favorite way to display small prints. Everything we said in the Folio section holds true here, but now imagine your prints set into a luscious cloth presentation box. Portfolio Boxes are costly, but well worth the effort and expense. Boxes can be purchased ready made at several online and bricks-and-mortar photography and art stores. They can also be custom made with cloth coverings, as shown here.

Frankly, we love Portfolio boxes so much we offer an annual two-day portfolio development workshop for serious photographers.

Custom made portfolio
box with titled interleaves

# BACKLIT DISPLAYS

Backlit displays used to be the province of specialty labs. That has changed over the past decade and if you own an ink-jet printer, you can buy materials, usually vinyl based, that you can print on and display.

In this example, we printed on Kodak media and sandwiched the image between two layers of plexiglas. The front piece is 1/4” thick and clear, to provide a sense of depth. The back piece is frosted to properly diffuse the light coming from five recessed daylight fluorescent tubes. The frame is affixed to the sides of the wall with Velcro, to enable us to replace the image whenever we want.

While the light box shown here was custom constructed, we now use commercially made metal boxes that employ tiny LEDs for backlighting. These boxes are thin, can be mounted directly on a wall and are available on the Internet in a wide variety of sizes. Some companies will custom build to whatever size you need.

Backlit inkjet film

# DISPLAY TIPS

If you are considering displaying your artwork, some pointers are in order.

**Play Matchmaker.** Try to match your framing options to your photographic genre. If you are into modern abstracts, try using aluminum frames, perhaps with no mats. Aluminum prints also work well with modern subject matter. Whatever your genre, try to avoid discordant matches between print and frames.

**Size Matters.** When discussing prints, the fact is that size can matter. We say this not to encourage large format prints, but rather to encourage you to consider carefully the size you wish to print based on the demands of the image itself.

Some prints are made to be held, passed around, picked up and enjoyed again and again. Such prints would benefit from a size under 11 x 14” and would be good candidates for a folio or portfolio box. Other images beg to be displayed large. A beautiful panorama might look stunning at 30 x 60”. Large prints are meant to be viewed at a distance, creating a less intimate viewing experience, but one that benefits from a WOW! image, so be sure you have enough viewing room before installing.

**Protect Your Prints.** If you will be handling your prints or displaying them without the benefit of glass, you should spray them with a fixative. We recommend Moab Desert Spray, which we have been using successfully for years. Avoid bargain brands as they can "spit", causing spots on your print. They can also cause your prints to seem as if they have a milky coating. See the Chapter on “Doing It Yourself” for tips, recommendations and a video.

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# LIGHTING

# LIGHTING

Any discussion of print displays must also include consideration of lighting. By that we mean that the way a print is lit has a major impact on the viewing experience.

Printer profiles and algorithms assume that a print will be lit by “natural light”. Natural light - daylight - has a broad spectrum of light wavelengths that together bring out all the potential color in a print. But even daylight has its drawbacks. At times the sun is too bright, or the day is overcast, making room lighting less than ideal.

Reality dictates that lighting your print will entail artificial lights. Here we urge some study and effort. If you thought your printing ends with the display medium you choose, think again. You must now decide how your print will look best hanging on a wall.

In many cases, you will not have a choice. In your own home you may not be able to afford a major electrical upgrade to enhance the light falling on your artwork. Or, if you are a professional, a client may be an institution with ghastly fluorescent lighting. Again, that’s reality.

The entire field of lighting has been revolutionized in the past decade or two. We can’t go into a lengthy exploration of the wide range of lighting available today. However, some pointers are in order.

**Research.** Do a series of Web searches for the latest lighting hardware. When you make your selections, keep in mind the tenor of your artwork. If you do modern abstracts, try some modern lighting fixtures. If you tend toward classic landscapes, use more traditional lighting fixtures.

**Bulbs Count.** You want the light to be spread evenly over your print, so look for bulbs that allow you to do that. Consider the position of your lights, too.

**Go Natural.** Bulbs are now made to mimic natural light. Once your fixtures are in, try different color spectrum lights before committing to one type. Generally, try to get a light that has the broadest spectrum practical. There’s a scientific standard, called CRI, that quantifies this. Take a look at Wikipedia’s discussion on the topic for more information.

**Avoid Glare.** Glare is the enemy of fine art displays. If you are mounting traditional prints behind glass, by all means use non-glare glass. The extra expense is well worth it when you amortize your investment over decades.

**Invest.** If you intend to display your artwork for years, plan to invest up front in good lights and bulbs. If you are a professional, consider lighting in making recommendations to clients and work with an electrician and a good parts supplier that you can trust to do the job right.

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# DOING IT YOURSELF

# DOING IT YOURSELF

For the traditional artist, nothing beats the satisfaction that comes with taking a print from initial vision to finished print to final display. Many photographers choose to build their own frames to ensure an aesthetic match with their prints. Some professional photographers also offer frames to match the decor of a client's house or office.

In this section we will only cover those do-it-yourself (DIY) options that we feel are realistic for an amateur or advanced amateur to accomplish with professional looking results. If you wish to do it yourself, here are a few tips and suggestions that we have for you, based on our creating our own frames in our studio.

# WEIGH THE DIY OPTION CAREFULLY

If you are handy with tools, either hand or machine, then you might want to consider doing your own frames. It is not difficult to do and there are literally dozens of video clips on the Internet that give step-by-step instructions. Your first few frames may not exactly work out as you wished but, then again, did your first prints? In other words, constructing your own frames takes patience and practice.

Making your own frames also takes time… lots of it. You need to find suppliers, order parts, keep them in inventory, have good tools, and somehow find the time to do it.

If that calculation does not work for you, there are myriad companies that will do all or most of the work for you. In fact, there are times when a customer will place a large, multi-print order for our work and we may outsource the frames to one of these companies because of the sheer volume.

So, if you are the type of artist who enjoys having control over every aspect of your art, you will enjoy this final step in the creative process. If you intend to to do that, here are some tips that we hope you will find useful:

**Tools** We are true believers when it comes to having the right tools for the job. Whether you prefer to work with hand tools or power tools, we urge you to invest in high quality tools that will get the job done quickly and accurately. There is nothing worse than sloppy joints that make a frame look unprofessional and that subsequently detracts from your photographic art.

**Stay Sharp** It amazes us to see workshops with great tools, where the blades are dull. Dull blades are dangerous and cause far more injuries than sharp blades. Dull blades can rip prints and create jagged cuts in mounting boards. Blades are relatively inexpensive, compared to the total cost of producing a top-notch art print. Whether we are talking about power blades or hand tool blades, please sharpen or change them regularly. A clean cut is part of the pride of workmanship that we as artists strive for.

**Fasteners** Fasteners are a world to themselves. There are various fastener systems for frames. In our studio we use glue for our joints, combined with an air gun for side nailing the joints to keep them secure. At times we also use push fasteners into the corners on the backside of the frame. These squiggly metal fasteners are best applied by a hand press machine that sinks the fastener in smoothly and to the correct depth. Finally, we clamp the frame for 24 hours once it is assembled, glued and nailed to make sure it sets properly.

**Inventory** Be sure to keep adequate inventory for your most used framing stock. We find it quite frustrating to be in the middle of a job

Good quality trimmers
and cutters are essential

and realize we do not have enough stock to complete it. Just trying to help you learn from our mistakes.

**Pre-painted** If you buy your frame stock unpainted, you have a number of steps to go through to get to your finished product, including final sanding, priming and two coats of paint. Painting is also very messy and can be hazardous to one's health unless adequate precautions are taken, including mask and proper ventilation.

In our shop we prefer to purchase pre-painted or pre-stained stock to save time and mess. If you go that route, be sure to find out the exact paint and stain that has been used, so you can touch up areas that need it.

**Touch Up** Using the same paint or stain that was used by the framing stock manufacturer, be sure to apply some of that paint or stain to the inside lips of the joints, so that no raw wood is visible from the outside when the frame is completed.

## TRADITIONAL VERSUS OPEN

There are two basic variations in using frames, with plenty of room for customizing to create the effect you want. We refer to these two options as traditional and open frames.

Traditional frames are made of wood (or plastic or metal). They have a ridge running along the inside edge of the frame to hold the print, mat, backing board and glazing materials, either glass or Plexiglas.

Open frames have become increasingly popular because they do away with the high cost of glazing. They also offer a different, more modern look. Open frames are constructed the same way as traditional frames, but lack the inside ridge to hold glazing. Instead, the print is mounted to a rigid board, such as Gatorboard. That mounted print is then mounted to a larger piece of Gatorboard that is affixed to the back of the frame. This mounting creates a raised effect and allows the print to be at the same height as the frame depth.

The ability to use an open frame really rests with the evolution of fixative sprays. We have tested a number of sprays and prefer Moab Desert Spray. By double coating your prints with this spray, the open frame will be resistant to UV degradation and the print can be dusted carefully as needed. However, sprays do not offer as high a protective value as a print mounted behind museum-quality glass (which is quite pricey).

For more information on how to create open-frame displays, click here.

## BACKLIT

Another wonderful decorating option is the backlit display. These can easily be printed in a home or studio on an inkjet printer and make a stunning focal point. Backlit displays look most like striking images on screen as they both use transmitted light.

The biggest issue with DIY backlit displays is the time, expense and mess of creating the light box source. It is possible to create a DIY box, as we have done in our studio. But that requires cutting out a section of wall, boxing it in, designing and fastening lights and a good deal of finish carpentry.

However, the good news is that you can DIY part of the display and farm out the most difficult part. There are companies that produce backlit lighting boxes that sit on top of the wall. With the advent of LED lighting strips these ready-made boxes are thinner than ever and with the right design can be made to work in most rooms. In these cases, all you need to do is print the backlit material using the

Always use a respirator when spraying prints. We prefer Moab Desert Varnish.

manufacturer's profiles and then order the box in the right size. To save money, plan to make your print in one of the standard light box sizes.

There are even labs that can print fine art back-lit images on special fabrics. The fabric is then stretched on a frame and backlit. While this is a dynamic look, it is not a DIY option, as even the print has to be done by the lab.

## FIXATIVE SPRAYS

It is a good idea to "fix" a print with a spray once it has dried for 24-48 hours and all the volatile gases allowed to dissipate (the process is called "outgassing"). We have tested many sprays in our studio and have come down to only two brands that we feel comfortable recommending.

The first, not surprisingly, is Moab's own Desert Varnish. The second is Print Shield. Both products give a nice, even spray without the "spit-

ting" that happens with some other sprays. That spitting will spot your print and ruin it after all the work you put into making it. The best advice we can give is to stick to these major brands.

We have also found highly inconsistent results with sprays when even a slight change in temperature has resulted in the coating turning milky (see fig. 13.1.1).

Something to keep in mind is to use good spray technique. Prints should be held on a vertical surface. Staying the correct distance from the print is critical. Keeping your arm rigid and moving your body parallel to the print surface is also essential. I often hold my spraying wrist with my other hand to remind myself to keep my hand and arm rigid. View brief video showing you a proper spray technique.

Please note that we only show the print being sprayed in horizontal orientation. You must rotate the print into a vertical orientation and spray it again, using the same technique. Those two sprays combined constitute one coat. In our studio we always give our prints two complete coats (four sprays).

With Moab Desert Varnish you need only wait four minutes between coats, so this process can be done rather quickly. We typically do 2-3 prints at once in our homemade setup.

13.1.1 Moab vs. Another brand of fixative.

**Important**: Please be sure to wear a respirator because any fixative fumes are unhealthy. We spray in our framing studio (converted garage), but wherever you spray make sure you have adequate ventilation.

MOVIE 13.1 Print spray technique demonstration.

See linked video file.

# LES PICKER FINE ART PHOTOGRAPHY WORKSHOPS

## PRINT WORKSHOPS

At our studio we offer small group instruction in the art of photographic printing. These one- or two-day workshops will provide you with all the tools, techniques and tips you will need to create museum quality fine art prints. There is a strict limit of no more than six participants in these workshops. There is no limit on the number of large format prints you can create and take home with you.

Les Picker has nearly fifty years experience in photography, including work for National Geographic Publications and dozens of other magazines, newspapers and other publications. Les was named a Moab Master for his fine art photographic printing and for his commitment to photographic education. He was also honored with the prestigious Canada Northern Lights Award for Best Travel Photographer.

Robert Boyer is the Master Printer for our studio, supervising all our printing. Bob is a studio photographer with nearly thirty years experience. He co-teaches our fine art print workshops.

For more information about our fine art print workshops, please visit here.

## TRAVEL WORKSHOPS

We offer travel photography workshops throughout the world. These small group adventures are highly rated and personally led by Les. Our photo tours include:

Sri Lanka

Tanzania

South Africa

Uganda

Yukon Territory

Canadian Rockies

Galapagos

Peru

Myanmar

Hawaii

Maine (Acadia National Park)

China

Click here for more information about our travel workshops.

We are continually developing interesting workshops designed to help beginners and advanced amateurs learn techniques designed to improve their photography. Workshops range from half day to two full days.

Here is a selection of our studio and field workshops:

Black & White Photography (full day)

Using Neutral Grad Filters (half day)

How To Shoot Fine Art Panoramas (one and two day)

Creating a Fine Art Portfolio (two and one half days)

The Art of Composition (half day and full day)

Boost Your Travel Photography To Wow! (half day)

Click here for more information about our photographic techniques workshops.